Exhibit D

REDACTED FOR PUBLIC INSPECTION

Before the

FEDERAL COMMUNICATIONS COMMISSION

Washington, D.C. 20554

In the Matter of	)	
Petition of ACS of Anchorage, Inc. Pursuant to Section 10 of the Communications Act of 1934, as amended, for Forbearance from Sections 251(c)(3) and 251(d)(1) In the Anchorage LEC Study Area	)	WC Docket No. 05-281

DECLARATION OF

David E. M. Sappington

January 9, 2005

I, David Sappington, under penalty of perjury, state the following:

1. Introduction.

1. My name is David Sappington. I am the Lanzillotti-McKethan Eminent Scholar in the Warrington College of Business at the University of Florida. I am also the Director of the University's Public Policy Research Center. Since earning my Ph.D. in Economics from Princeton University in 1980, I have served on the professional staff of Bell Communications Research and on the faculties of the University of Michigan, the University of Pennsylvania, and the University of Florida. I also served as the Federal Communications Commission's Chief Economist in 2001 and 2002.

2. My research, which focuses on the design of regulatory policy in the telecommunications industry, has culminated in more than one hundred published articles. I presently serve on the editorial boards of five leading economics journals, and have served as an advisor to the U. S. Department of Justice, the World Bank, the New York State Public Service Commission, and CONATEL and OSIPTEL, the national telecommunications regulatory agencies in Ecuador and Peru, respectively. My curriculum vita is attached as an appendix to this statement.

3. The purpose of this declaration is to explain why forbearance from Sections 251(c)(3) and 252(d)(1) of the Telecommunications Act of 1996 ("the Act")[1] in the Anchorage LEC study area would: (1) produce unjust and unreasonable rates both for unbundled network elements ("UNEs") and for retail telecommunications services; (2) leave consumers vulnerable to the exercise of market power by ACS of Anchorage, Inc. ("ACS"); (3) facilitate anticompetitive behavior by ACS; (4) create poor incentives for full facilities-based operation by competitive local exchange carriers ("CLECs") throughout the United States; and, for all these reasons, (5) be contrary to the public interest. This declaration also explains why many of the arguments offered by ACS in support of forbearance are incorrect.

Brief Explanation of Conclusions

4. The Act constitutes a "pro-competitive, deregulatory national policy framework."[2] A central goal of the Act is to replace ongoing retail rate regulation with the discipline provided by

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[1] Pub. L. No. 104-104, 110 Stat. 56, 47 U.S.C. § 151 *et seq*.

[2] *Joint Statement of Managers*, S. Conf. Rep. No. 104-230, 104th Cong. 2d Sess. 1 (1996) (Joint Explanatory Statement).

sustained, robust competition.[3] Competition can replace retail rate regulation only when the competition protects consumers by preventing incumbent local exchange carriers ("ILECs") from exercising market power, i.e., from raising prices above the costs of an efficient supplier of telecommunications services.

5. ACS asserts it lacks the ability to raise retail rates in Anchorage because General Communication, Inc. ("GCI") presently serves many customers in Anchorage. Even if retail market shares were a reliable measure of market power (which they are not), ACS' argument would be flawed in two important respects. First, current retail market shares in Anchorage reflect in large part the very regulatory policy that ACS seeks to abandon. Future market shares, like ACS' ability to exercise its market power, are likely to change dramatically if forbearance is implemented in Anchorage. Second, and perhaps more importantly, ACS ignores entirely its ability to raise retail prices by exercising its dominant control over the wholesale inputs used by CLECs – particularly GCI – in Anchorage.[4]

6. Given the paucity of reasonable near term (and in some cases longer term) substitutes for critical UNEs supplied by ACS, forbearance in Anchorage would enable ACS to both raise the price and restrict the supply of UNEs.[5] Consequently, CLECs would be unable to serve many customers in Anchorage economically. Furthermore, to the extent CLECs could still obtain UNEs, CLECs would be compelled to pass along to the customers they are able to serve the higher costs associated with higher UNE prices. Alternatively, if CLECs were forced to use resold services with wholesale prices based on ACS' retail prices, ACS could raise its retail rates and force competitors to do likewise. Thus, forbearance would lead to unjust and unreasonable rates for retail consumers due to ACS' exercise of the market power it derives from its position as the dominant supplier of critical UNEs in Anchorage.

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[3] The Federal Communications Commission notes that one of "Congress's primary aims in the 1996 Act [was] to deregulate telecommunications markets to the extent possible." *Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Omaha Metropolitan Statistical Area*, WC Docket No. 04-223, Memorandum Opinion and Order, FCC 05-170, Adopted September 16, 2005 [*Omaha Decision*], ¶77.

[4] As the Declaration of William Zarakas reveals, more than 80% of the switched lines in service in Anchorage employ ACS loops. More than 60% of GCI's switched lines employ ACS' loops.

[5] In other words, forbearance would enable ACS to raise its rivals' costs, a well-known anticompetitive strategy. See, for example, Salop and Scheffman (1983, 1987), Salop et al. (1984), Krattenmaker and Salop (1986), and Krattenmaker et al. (1987).

7. ACS suggests in error that: (1) GCI presently can serve most or all customers in Anchorage economically using either its own facilities exclusively or a combination of its own facilities and non-ACS facilities; and (2) such operation will constrain ACS' market power effectively. It is true that GCI is an exemplary CLEC that uses its own facilities extensively, and will increase such use in the future. However, extensive use does not imply exclusive use, nor does it imply an ability to transition all customers in the various residential and business product markets to non-ACS facilities. GCI continues to rely upon ACS for key UNEs, particularly unbundled loops. Moreover, the ability to transition to alternative facilities over time does not imply that the supply of loops is elastic in the near term. Denying GCI and other CLECs access to critical UNEs at regulated rates would preclude their ability to provide retail services at competitive rates in relevant geographic and product markets. Consequently, GCI and other CLECs would be unable to constrain ACS' market power in these markets. ACS would be empowered to raise CLEC costs to the point where CLECs would either be compelled to raise prices to their existing customers substantially or stop serving them altogether. CLECs also would be seriously handicapped in competing for new customers. Although these outcomes are highly favorable for ACS, they are highly unfavorable for both residential and business customers in Anchorage.

8. In addition to harming consumers in Anchorage, granting forbearance in Anchorage now would signal to CLECs throughout the United States that they will be punished for pursuing full facilities-based competition vigorously. Such a message is clearly contrary to the objectives of the Act. ACS' erroneous claim that GCI can serve most or all of its customers through exclusive use of its own facilities reflects the cursory observation that GCI has begun to serve some of its customers in this manner. Forbearance in Anchorage at the present time would send the chilling message to CLECs everywhere that the moment they demonstrate an emerging ability to serve some customers using only their own facilities (despite the ongoing need for upgrading the facilities at substantial cost and with considerable technical and logistical difficulty), they will either be compelled to serve all customers in this manner immediately or be exposed to the full fury of unconstrained ILEC wholesale market power. Such a message would seriously undermine the development of full facilities-based competition.

Overview of Declaration

9. I explain these central conclusions more fully as follows. Section 2 explains why forbearance from the unbundling provisions of the Act is appropriate only when an ILEC would be unable to exercise market power if reasonably efficient CLECs were denied access to UNEs at regulated (TELRIC) rates. Section 3 reviews the central elements of the standard test for market power, including the identification of relevant product markets, relevant geographic markets, and likely market participants. Section 4 considers the ability of one important group of market participants – CLECs – to constrain ILEC market power.

10. Section 5 explains why the "reasonably efficient competitor" standard is the proper standard in formulating forbearance decisions. Section 6 reviews the benefits of timely forbearance and the costs of premature forbearance, and recommends a careful balancing of these benefits and costs. Section 7 explains why such a balancing reveals forbearance in Anchorage presently is contrary to the public interest. Section 8 reviews some of the many fallacies in ACS' appeal for forbearance. Section 9 concludes this declaration.

2. Forbearance from Unbundling is Appropriate Only in the Absence of ILEC Market Power, Including an Inability to Increase Price by Raising Rivals' Costs.

11. The Federal Communications Commission ("the Commission") has determined that facilities-based CLECs generally would be impaired without access to DS-0 loops in all circumstances and to DS-1 loops in circumstances where sufficient alternative competitive supply is not available. [*TRO*, ¶¶146, 149, 179][6] However, the Commission observes that "incumbent LECs remain free to seek forbearance from the application of our unbundling rules in specific geographic markets where they believe the aims of Section 251(c)(3) have been "fully implemented" and the other requirements for forbearance have been met." [*TRO Remand*, ¶39][7]

12. Section 10(a) of the Act directs the Commission to "forbear from applying any regulation or provision of this Act … if the Commission determines that – (1) enforcement of such regulation or provision is not necessary to ensure … just and reasonable [outcomes] …; (2)

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[6] *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Dockets Nos. 01-338, 96-98, 98-147, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd 16978, 17145 (2003).

[7] *In the Matter of Unbundled Access to Network Elements, Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Order on Remand, 20 FCC Rcd 2533 (2005).

enforcement of such regulation or provision is not necessary for the protection of consumers; and (3) forbearance from applying such provision or regulation is consistent with the public interest." In evaluating the effect of forbearance on the public interest, Section 10(b) requires the Commission to consider whether forbearance would "promote competitive market conditions, including the extent to which such forbearance will enhance competition among providers of telecommunications services." Section 10(d) of the Act states that the "Commission may not forbear from applying the requirements of Section 251(c) … until it determines that those requirements have been fully implemented." All these requirements must be satisfied in order for an ILEC to obtain the forbearance from unbundling obligations that ACS presently seeks in Anchorage.

13. These directives imply forbearance from the Section 251(c)(3) unbundling obligations ("forbearance") is appropriate when – and only when – the competition that can reasonably be expected in the absence of mandated access to UNEs at regulated (TELRIC) prices will protect consumers by precluding the exercise of ILEC market power. The Act mandated access to UNEs at regulated prices to ensure that competition could thrive in the absence of alternative sources of essential network functionality (e.g., loop transmission).[8] Given the Act's intention to replace retail rate regulation with competition, the competition that will prevail under forbearance must protect consumers against unjust and unreasonable prices in the absence of retail rate regulation. Consumers will be so protected only when ILEC market power has been eliminated. Therefore, to determine whether forbearance is appropriate in any relevant market, it is necessary to determine whether the ILEC will have market power in that market if CLECs are denied access to UNEs at regulated rates.

14. An ILEC has market power when it is able to profitably "maintain prices above competitive levels for a significant period of time." [*DOJ Guidelines*, §0.1][9] In competitive markets, prices reflect the costs of efficient suppliers. In the telecommunications industry,

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[8] The Joint Explanatory Statement of the Committee of Conference that accompanied the Conference Report specifically states "This conference agreement recognizes that it is unlikely that competitors will have a fully redundant network in place when they initially offer local service, because the investment necessary is so significant. Some facilities and capabilities . . . will likely need to be obtained from the incumbent local exchange carrier as network elements pursuant to new section 251." S. Rep. 104-458 at 148.

[9] *Horizontal Merger Guidelines*. U. S. Department of Justice and the Federal Trade Commission. Washington, D.C. Revised April 8, 1997.

relevant costs include the costs of key inputs (e.g., loops, transport, and switches) and the costs of combining these key inputs to produce outputs such as local exchange and exchange access service. Therefore, "prices above competitive levels" refer to prices that exceed these costs of an efficient supplier by a modest amount (often in the neighborhood of five percent).[10]

15. The "significant period of time" in which an ILEC can sustain prices above competitive levels is the period in which consumers are harmed by the exercise of monopoly power. The Act did not call for consumers to be harmed for any sustained period of time as local exchange competition develops. Therefore, for the purposes of analyzing forbearance from Section 251(c), it is reasonable to presume an ILEC has market power if it would be able to sustain supra-competitive prices for any appreciable time period (e.g., several months).

16. Forbearance that leaves an ILEC with market power does not satisfy the relevant prerequisites for forbearance. Such forbearance does not: (1) ensure just and reasonable wholesale and retail rates; (2) protect customers against the exercise of market power; or (3) promote competitive market conditions. Importantly, these harms can arise from market power that the ILEC derives from its dominant control over key inputs (e.g., loops). This wholesale market power can persist and can continue to harm consumers even in the presence of intense retail competition.

17. To illustrate this important conclusion, recall that if an ILEC faced no meaningful retail competition and no retail price regulation, it could exploit consumers directly by charging the monopoly price for the service it supplies to retail customers. Under forbearance, an ILEC with dominant control of key inputs (UNEs) can achieve this same detrimental outcome even when it faces intense retail competition from UNE-based CLECs. The ILEC can do so by raising the prices of UNEs to the point where CLECs can only serve customers profitably if they charge the monopoly price for the retail service. The high UNE prices under such a policy preclude any (supracompetitive) profit for CLECs, but generate the full monopoly profit by forcing retail customers to pay the monopoly price. The ILEC collects this profit in the form of high wholesale profit. The ILEC will be indifferent as to whether it collects the monopoly profit via its retail or

[10] In defining relevant product markets, the *DOJ Guidelines* (§1.11) state "In attempting to determine objectively the effect of a "small but significant …" increase in price, the Agency, in most contexts, will use a price increase of five percent …".

its wholesale operations, as long as it secures the monopoly profit.[11] Consumers are similarly indifferent as to whether they are exploited by an ILEC with a monopoly retail operation or an ILEC that compels CLECs to charge monopoly retail prices by saddling them with high UNE prices. Consumers suffer equal (and substantial) harm under both arrangements.

18. To illustrate this well-known and widely-accepted principle with a simple example, suppose each unit of retail service (e.g., local exchange access) requires one UNE (e.g., a loop) and one unit of another input (e.g., switching). Let each UNE cost the ILEC $15 to produce. (UNE substitutes are assumed to be prohibitively costly for a CLEC to produce.) Also let each unit of the other input cost an efficient supplier $5 to produce. In addition, suppose each of 1,000 potential customers is willing to pay as much as $50 for one unit of the retail service.

19. If the ILEC were the sole supplier of both inputs and it operated efficiently, the ILEC could produce the retail service at a unit cost of $20 (= $15 + $5). If it faced no retail competitors, the ILEC could charge each customer the (monopoly) price of $50, thereby securing a profit margin of $30 (= $50 – $20) on each unit of the retail service sold. The ILEC's total profit would be $30,000 (= $30 *x* 1,000 customers).

20. Suppose instead an efficient CLEC served all retail customers. An ILEC that had successfully achieved forbearance could charge the CLEC $45 for each UNE. By doing so, the ILEC would raise the unit cost of the efficient CLEC to $50 (= $45 + $5). The CLEC could only operate profitably under these circumstances by charging consumers the most they are willing to pay for the service, $50. The CLEC earns no (supracompetitive) profit in this setting. In contrast, despite losing its entire retail market share, the ILEC secures $30,000 in profit from its wholesale operations. This profit is the product of the ILEC's profit margin on each UNE sold to the CLEC ($30 = $45 - $15) and the 1,000 UNEs sold to the CLEC (to supply the 1,000 retail customers).

21. Although this example is simple, it is not pathological. In this example and more generally, consumers will not be protected against unjust and unreasonable prices whether they face an unregulated ILEC that is a dominant supplier of retail services or they purchase retail services from efficient CLECs that are forced to purchase UNEs from an ILEC that is a dominant

[11] This conclusion is a variant of what is commonly referred to as the "one monopoly rent" theorem. The theorem states that under certain conditions "a monopolist at any single level of a distribution chain can recover all monopoly profit available in that chain. As a result a monopolist of two successive links will not make more monopoly profits than a monopolist of only one" (Hovenkamp, 1985, p. 150).

supplier of UNEs. Thus, even intense retail competition will fail to protect consumers when CLECs face an ILEC with dominant control of one or more key inputs.[12] This control will allow the ILEC to raise retail prices above competitive levels by raising the costs of its retail rivals.

22. These conclusions reflect both well-known and widely-accepted economic principles and long-standing Commission recognition of the ability of a vertically-integrated ILEC to exercise the market power it derives from its wholesale operations to harm retail customers.[13] The Commission has noted, for example, that "A carrier may be able to unilaterally raise prices by increasing its rivals' costs or by restricting its' rivals' output through the carrier's control of an essential input, such as access to bottleneck facilities, which its rivals need to offer their services."[14] Similarly, the Commission has observed that "A carrier can raise prices profitably and sustain them above competitive levels, and thereby exercise market power, … by increasing its rivals' costs or restricting its rivals' output through the control of an input that is necessary for the provision of service."[15] In addition, the Commission has warned that "In the absence of

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[12] Therefore, as explained further in section 8, ACS' characterization of the Anchorage study area as "among the most competitive telecommunications markets in the country" based on retail market shares fails to address the central issue of ACS' wholesale market power. *Petition of ACS of Anchorage, Inc. for Forbearance from Sections 251(c)(3) and 252(d)(1)*, WC Docket No. 05-281, September 30, 2005 [*ACS Petition*], p. 1.

[13] These principles are established in Salop and Scheffman (1983, 1987), Salop et al. (1984), Krattenmaker and Salop (1986), and Krattenmaker et al. (1987), among others. The courts also routinely employ these principles. See, for example, *Premier Electrical Construction Co. v. National Electrical Contractors Association, Inc.*, 814 F.2d 358; 1987 U.S. App, and *Mary Forsyth et al. v. Humana, Inc.*, 114 F.3d 1467; 1997 U.S. App.

[14] *Section 272(f)(1) Sunset of the BOC Separate Affiliate and Related Requirements; 2000 Biennial Regulatory Review Separate Affiliate Requirements of Section 64.1903 of the Commission's Rules*, WC Docket No. 02-112; CC Docket No. 00-175, 18 FCC Rcd 10914 (2003), ¶5, n. 10.

[15] *Rules and Policies on Foreign Participation in the U.S. Telecommunications Market; Market Entry and Regulation of Foreign-Affiliated Entities*, IB Docket No. 97-142; IB Docket No. 95-22, 12 FCC Rcd 23891 (1997) [*Foreign Participation Order*], ¶144. The Commission also has noted that "Firms with market power in an "upstream" input market can engage in discrimination in a "downstream" end-user market by favoring one downstream entity at the expense of its competitors. When the upstream firm possesses market power, the downstream competitors have few, if any, alternative sources for the upstream input. We find that the relevant input markets … generally include … local access facilities …" [*Foreign Participation Order*, ¶146] The Commission identifies "price discrimination, non-price discrimination, and price squeeze behavior" as "three anticompetitive strategies" a vertically-integrated ILEC with market power could employ to "cause harm to competition …" [*Foreign Participation Order*, ¶146] Thus, an ILEC with dominant control over key inputs can employ many anticompetitive policies (not just the one illustrated here) to raise its rivals' costs and thereby harm retail customers.

UNEs, incumbent LECs would … have the ability to set the price of their direct competitors' critical wholesale inputs. … An incumbent in that situation would have substantial incentive to raise prices to levels close to or equal to the associated retail rate, creating a "price squeeze" and foreclosing competition based on use of the tariffed wholesale input."[16] [*TRO Remand*, ¶59]

23. These well-known principles and well-established Commission policy provide an important conclusion: To determine whether forbearance is appropriate, it is necessary to determine if ILECs will be able to exercise market power (by raising their rivals' costs, for example) if CLECs are denied access to UNEs at regulated rates.

3. The Test for ILEC Market Power.

24. The *DOJ Guidelines* provide a systematic and widely accepted means for assessing likely market power. The *DOJ Guidelines* identify four important steps in determining whether an ILEC (or any other firm) will possess market power in the setting of interest: (1) identify the relevant product market(s); (2) identify the relevant geographic market(s); (3) determine the likely market participants; and (4) assess the ability of the likely market participants to drive prices to competitive levels in the relevant product and geographic markets.[17]

A. The Relevant Product Market(s).

25. Intuitively, a product market consists of all products "that consumers consider reasonably interchangeable for the same purposes." [*United States v. E.I. du Pont de Nemours & Co, 351 U.S. 377, 395 (1956)*] More formally, a product market is "a product or group of products such that a hypothetical profit-maximizing firm that was the only present and future seller of those products … likely would impose at least a "small but significant and nontransitory" increase in price." [*DOJ Guidelines*, §1.11]

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[16] Notice that under forbearance, an ILEC with wholesale market power can employ a price squeeze to its advantage (and to the disadvantage of CLECs and consumers alike) even when retail prices are regulated. The ILEC can raise UNE rates to the point where even the most efficient CLEC cannot profitably serve the customers that the ILEC finds profitable to serve at regulated retail rates. Although such a price squeeze does not increase retail prices above regulated levels, it prevents customers from enjoying the lower prices that competition would secure if CLECs could obtain UNEs at competitive rates.

[17] Similarly, the Commission determines whether a carrier is dominant (and so has market power) by: "(1) delineating the relevant product and geographic markets for examination of market power; (2) identifying firms that are current or potential suppliers in that market; and (3) determining whether the carrier under evaluation possesses individual market power in that market." [*Omaha Decision*, ¶18]

26. A key group of products that ILECs and CLECs deliver to customers is retail wireline local exchange and exchange access service, which enables customers to initiate and receive telephone calls. Because consumers typically perceive few suitable alternatives for the service, a monopoly supplier of the service would find it profitable to raise the price of the service above competitive levels. (Indeed, this is the reason for widespread historic regulation of the price of local exchange service.) Consequently, wireline local exchange and exchange access service is a candidate for one or more relevant product markets. A related, but separate product market is the market for bundled local and long distance services.[18]

27. Competition may drive prices to competitive levels for some groups of customers, but not for others. Therefore, in defining product markets it is important to distinguish among groups of customers that face different intensities of competition or that exhibit different purchasing patterns and/or different patterns or intensities of product use.

28. In its merger and impairment analyses, the Commission routinely distinguishes among: (1) residential customers; (2) small business customers, (3) medium enterprise customers; and (4) large enterprise customers.[19] The Commission has specifically noted that "the economic characteristics of the mass market, small and medium enterprise, and large enterprise customer classes can be sufficiently different that they constitute major market segments," explaining that "These customer classes generally differ in the kinds of services they purchase, the service quality they expect, the prices they are willing to pay, the levels of revenue they generate, and

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[18] See *SBC Communications, Inc. and AT&T Corp. for Approval of Transfer of Control*, Memorandum Opinion and Order, WC Docket No. 05-65, Released November 17, 2005 [*SBC-AT&T Order*], ¶95] and *Verizon Communications Inc. and MCI, Inc. Applications for Approval of Transfer of Control*, Memorandum Opinion and Order, WC Docket 05-75, Released November 17, 2005 [*Verizon-MCI Order*] ¶96.

[19] See, for example, [*TRO*, ¶123]. Also see the merger orders cited in [*TRO*, ¶126]. For example, the Commission observes "Within a product market it is possible to identify and aggregate consumers with similar demand patterns. We conclude there are at least three customer groups that can be identified as having similar patterns of demand: (1) residential customers and small businesses; 2) medium-sized businesses; and 3) large businesses/government users. Each of these customer groups exhibits distinct buying patterns." *Application of NYNEX Corp., Transferor, and Bell Atlantic Corp., Transferee, For Consent to Transfer Control of NYNEX Corp. and Its Subsidiaries*, File No. NSD-L-96-10, Memorandum Opinion and Order, 12 FCC Rcd 19985, 20016 (1997) [*NYNEX-Bell Atlantic* Order], ¶53. This approach is also consistent with the Commission's distinction between "the mass market (residential consumers and small business customers) and the enterprise market (medium-sized and large business customers)" in Omaha [*Omaha Decision*, ¶22] and with the Commission's conclusion that "small enterprise customers fall into a different relevant product market from mid-sized to large retail enterprise customers."[*SBC-AT&T Order, ¶60*] and [*Verizon-MCI Order, ¶60*]

the costs of delivering them services of the desired quality." [*TRO*, ¶123] In her declaration, Ms. Gina Borland attests that residential consumers and the smallest businesses are in a different product market than larger businesses. The services that are appropriate for a residential consumer or a SOHO business typically are not appropriate, and do not substitute for, the services provided to small, medium, and large businesses.

29. More granular distinctions among customer groups also can be appropriate. As the Department of Justice Guidelines make clear, the product market should generally be the "smallest group of products that satisfies" the test of a small, but significant and non-transitory price increase.[20] For example, the costs of serving residential customers can vary significantly for a CLEC like GCI according to whether the customer resides in a multiple-dwelling unit ("MDU"). For the reasons explained in the Declarations of Blaine Brown and Gary Haynes, cost, technical, and operational issues all can limit a carrier's ability to deliver cable telephony to customers who live in MDUs.[21] Consequently, residential customers who reside in MDUs in Anchorage may well face different intensities of competition than residential customers who live in single-family homes. Thus, a relevant service sold to customers in MDUs may appropriately be considered as a separate product market from the same service sold to other residential consumers.

30. Likewise in the business market, different network segments (e.g., loops and transport) can constitute separate product markets, as can different capacities of service.[22] Furthermore, as the Commission has noted, "differences in performance, reliability, security and price" can be sufficiently pronounced so as to define different product markets.[23] This is the case in the business market in Anchorage. As explained in the Declaration of Gary Haynes, the services required by some medium business customers (e.g., non-Internet private line services such as ISDN-PRI and DSS services) can only be provided over high capacity fiber networks or copper-

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[20] [*DOJ Guidelines*, § 1.11].

[21] As explained in the Declarations of Gary Haynes, the problems become particularly severe in MDUs with more than eight switched lines.

[22] [*SBC-AT&T Order*, ¶27 and n. 90] and [*Verizon-MCI Order,* ¶27 and n. 89] (finding special access channel terminations and transport to be in separate product markets, and noting that "different capacity circuits are likely to constitute separate relevant product markets.")

[23] [*SBC-AT&T Order*, ¶26]. See also [*SBC-AT&T Order*, ¶58]and [*Verizon-MCI Order,* ¶58] (finding that "local voice, long distance voice, and data services constitute distinct product markets" for enterprise customers).

loop networks with more traditional architectures. Industry literature also supports viewing DS1-based services as a distinct product market from both fiber-based services and the mass market services typically available over a DOCSIS cable telephony network.[24]

31. In summary, it is reasonable to view local exchange and exchange access services in Anchorage as comprising at least three relevant product markets. These product markets are the wireline local exchange and exchange access services sold to: (1) residential customers; (2) small business customers; and (3) medium and large enterprise customers. Further disaggregation (to distinguish between medium and large enterprises, such as enterprises requiring DS3 and greater capacity services, and between MDU and non-MDU residential customers, for example) also may be appropriate.

B. The Relevant Geographic Market(s).

32. Just as competitive pressures can vary for different customer groups, the pressures can vary across geographic regions. Therefore, in assessing whether competition will drive prices to competitive levels, it is important to identify the geographic region in which competitive pressures are being examined.

33. Intuitively, a relevant geographic market is the "area in which customers can reasonably search for competing services." [*Sprint-Nextel Order*, ¶52][25] More formally, a relevant geographic region is "a region such that a hypothetical monopolist that was the only present and future producer of the relevant product at locations in that region would profitably impose at least a "small and nontransitory" increase in price, holding constant the terms of sale for all products produced elsewhere." [*DOJ Guidelines*, §1.21]

34. The relevant geographic market for wireline local exchange and exchange access service generally consists of the location at which the service is secured. Wireline local exchange and exchange access service at some location other than where the service is normally employed to initiate and receive telephone calls generally is not a reasonable substitute for the same service at

[24] See Scientific Atlanta, *MSO Commercial Services Development: Scientific Atlanta's Position on the Significance of Commercial Services and the Critical Success Factors for MSOs*, September 2003, for example.

[25] *Applications of Nextel Communications, Inc. and Sprint Corporation For Consent to Transfer Control of Licenses and Authorizations*, Memorandum Opinion and Order, WT Docket No. 05-63, Released August 8, 2005.

a different location.[26] Consequently, a hypothetical monopoly supplier of wireline local exchange and exchange access service at a given location typically would find it profitable to increase price above the competitive price level. Therefore, the relevant geographic market for wireline local exchange and exchange access service is the location at which the service is secured.

35. For the purpose of analysis, it is reasonable to treat as a single geographic market the separate geographic markets in which "all customers in [each of those markets] will likely face the same competitive alternatives" for the product in question. [*NYNEX-Bell Atlantic Order*, ¶51][27] The presence of similar competitive alternatives typically implies the presence of similar pressures to reduce prices to competitive levels. Potential indicators of similar competitive alternatives include similar numbers of competitors with similar technologies and operating costs.

36. These observations imply that the entire ACS Anchorage study area is not the relevant geographic market in the present proceeding.[28] Competitive conditions vary considerably in different regions of Anchorage, even within individual ACS wire centers, for at least three reasons. First, GCI's cable plant – on which ACS principally relies in making its case for forbearance – is not present throughout the ACS study area. Indeed, GCI's certificated LEC service area, which is coextensive with ACS' study area, is larger than GCI's certificated cable service area. For example, GCI is not the certificated cable provider in Girdwood, which receives cable service from Eyecom, an affiliate of another Alaska ILEC. [Declaration of Gina Borland] Second, GCI's network and cable nodes have been upgraded as necessary to provide voice service and necessary back-up power in some parts of Anchorage but not in other parts. [Declaration of Gary Haynes] Third, GCI's cable and fiber networks are not ubiquitous. Consequently, although some businesses in Anchorage are relatively close to the relevant GCI network, others are quite far from the relevant GCI network.

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[26] [*SBC-AT&T Order*, ¶¶ 28 (special access), 62 (enterprise customers), 97 (mass market)] and [*Verizon-MCI Order*, ¶¶ 28 (special access), 62 (enterprise customers), 98 (mass market)].

[27] The Commission notes that "while each point to point local calling route constitutes a separate market, the fact that each customer faces the same competitive alternatives for each route allows us to aggregate these routes into a service called local exchange and exchange access service." [*NYNEX-Bell Atlantic Order*, ¶51]

[28] Thus, as explained in more detail in section 8, ACS' claim that "The Anchorage LEC Study Area is the appropriate geographic market" is not supported by the facts in this case. [*ACS Petition*, p. 27]

37. Because ACS wire centers and the regions in which GCI has upgraded its cable nodes have distinct boundaries,[29] competitive conditions vary both across and within wire centers in Anchorage. Notice, for example, that GCI currently serves just **[BEGIN CONFIDENTIAL][END CONFIDENTIAL]** of its residential customers in ACS' East wire center using its own facilities exclusively.[30] In contrast, GCI currently employs UNEs secured from ACS to serve **[BEGIN CONFIDENTIAL][END CONFIDENTIAL]** of its residential customers in the O'Malley and Rabbit Creek wire centers.[31] In regions where GCI presently is able to provide local exchange and exchange access service using only its own facilities, there is at least one alternative market participant (GCI) that could, in principle, help to limit ACS' market power even if CLECs were denied access to UNEs at regulated rates (provided customers are not too distant from the cable facilities and are not concentrated in MDUs, for example). In other regions, where CLECs cannot presently provide local exchange and exchange access service economically using their own facilities exclusively, there are no alternative facilities that can be employed to help to limit ACS' wholesale market power.[32]

38. An appropriate delineation of relevant geographic markets should aggregate together only those customer locations that have similar competitive alternatives to ACS facilities. Areas that are distant from fiber or cable facilities should not be included in the same geographic market as areas that are close to the relevant facilities. Similarly, residential and small business locations passed by cable plant with upgraded nodes should not be included in the same geographic market as corresponding locations that are not so passed.

39. The Commission has noted that it can sometimes be reasonable to employ an ILEC's wire centers as proxies for relevant geographic markets in order to avoid the need for CLECs to inform ILECs of the details of their full facilities-based operation on an ongoing basis. [*Omaha*

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[29] See the Declaration of Gina Borland.

[30] See the Declaration of William Zarakas.

[31] *Id*.

[32] The Commission has recognized that "carriers face substantial fixed and sunk costs, as well as operational barriers, when deploying loops, particularly where the capacity demanded is relatively limited. Given these barriers, it appears unlikely that a carrier would be unwilling to make the significant sunk investment without some assurance that it would be able to generate revenues sufficient to cover that investment. … Moreover, even when there is adequate retail demand, the costs of constructing the loop may be sufficiently high, or there may be other operational barriers, that may deter entry." [*SBC-AT&T Order,* ¶39] and [*Verizon-MCI Order*, ¶39]

Decision, ¶69, n. 186] Before instituting forbearance in a particular wire center, though, it is important to verify that reasonably efficient competitors will be able to serve the vast majority of customers in the wire center economically within a commercially reasonable period of time. Otherwise, a substantial number of customers will be exposed to largely unconstrained ILEC market power for a considerable period of time, which is inconsistent with the goals and mandates of the Act.

C. The Relevant Market Participants.

40. After identifying relevant product and geographic markets, it is important to identify likely participants in those markets. It is generally reasonable to assume the ILEC that presently operates in a given geographic market will continue to operate in the market if regulated access to UNEs is precluded. The critical questions for assessing an ILEC's market power under forbearance from Sections 251(c)(3) unbundling obligations are: (1) Will CLECs participate in the relevant market if they are denied access to UNEs at regulated rates ("regulated UNE access")? and (2) Will participating CLECs be able to impose the discipline required to ensure prices that reflect the costs of efficient suppliers in the relevant market?

41. CLECs can reasonably be expected to operate in a market without regulated UNE access if such operation would be economic (i.e., if the CLECs would not be impaired without regulated UNE access). Operation is economic when (the present discounted value of) revenues from operation exceed (the present discounted value of) corresponding costs. These costs, in turn, typically include entry barriers, which can sometimes be prohibitive.[33] When CLECs are denied access to UNEs, the entry barriers they commonly face include: (a) high costs of securing access to public rights of way; (b) high costs of securing building access when customers reside in multiple-dwelling units; (c) high costs of deploying cable plant to permit high-quality voice telephony; and (d) high costs of securing key inputs from wholesale suppliers.

42. The costs CLECs experience in implementing full facilities-based operation can vary substantially according to the speed with which such operation is implemented. A CLEC's costs can escalate rapidly if the CLEC is required to transition to full facilities-based operation in a very short period of time (assuming that such an accelerated transition is even feasible from an operational perspective). The higher costs of rapid self-provisioning include: (1) higher labor

[33] As explained further in section 8, ACS' claim that "There are no barriers to entry in the Anchorage wholesale market" is incorrect. [*ACS Petition*, p. 35]

costs due to the need to pay overtime wage rates and the need to offer higher base wages to attract an expanded staff of qualified workers; (2) higher training costs due to the likely shortages of experienced personnel;[34] (3) higher financing costs, because lenders and investors typically demand premiums when asked to supply large amounts of capital; (4) higher costs of procuring inputs that embody new technologies, in part because manufacturers do not yet enjoy the scale economies that arise when the inputs are produced in greater quantities; (5) higher unit costs for other inputs due to the need to procure essential equipment from more distant and higher-cost suppliers; and (6) higher repair and re-installation costs due to the unavoidable errors that arise when less-experienced and/or over-extended personnel work with new and less familiar equipment. In many instances, the costs of rapid self-provisioning can be prohibitive, making such operation either infeasible or uneconomic.[35]

43. The Declaration of Gina Borland reveals that ACS, GCI, and AT&T Alascom are the primary carriers serving the residential, small business, and medium and large business customer groups in Anchorage in the relevant product markets. GCI appears to be the only competitor to ACS that is making substantial use of its own facilities and using UNEs to serve customers. Although other carriers may be certified to operate in Anchorage, the limited number of customers and the presence of GCI and AT&T Alascom make further widespread market participation in Anchorage unlikely, particularly in the near future.

D. The Strength of Competitive Pressures.

44. After identifying relevant market participants, it is important to assess the ability of competitors to constrain ILEC market power. Like all producers, CLECs cannot profitably serve customers for extended periods of time at prices below their costs of production. The higher are a CLEC's operating costs, the higher is the price it must charge its customers in order to operate profitably. When forbearance forces CLECs to incur high UNE prices, some CLECs may be compelled to terminate their operations altogether, particularly if they are subject to a retail price squeeze by the ILEC. Those that can continue to serve customers will be unable to drive retail prices to competitive levels. Consequently, the ability of CLECs to expand their operations

[34] The Commission notes that relevant entry barriers include "operational [barriers] (e.g., lack of skilled workers)." [*Omaha Decision*, ¶35]

[35] See the Declarations of Richard Dowling and Gary Haynes for additional discussions of this important issue.

economically in response to high ILEC prices will be limited, producing a low elasticity of competitive supply to ILEC retail price increases.[36] This important detrimental impact of premature forbearance is reviewed in detail in section 4.

4. CLEC Inability to Limit ILEC Market Power Under Forbearance.

45. ACS argues that even if CLECs are unable to operate profitably using their own facilities exclusively, forbearance would not preclude CLEC operation in Anchorage. ACS contends that CLECs would still be able to participate in relevant retail markets either by reselling ACS' services or by employing UNEs acquired from ACS at negotiated rates. [*ACS Petition*, pp. 35, 43-44] While such participation in retail markets is conceivable, it will not provide the competitive discipline required to eliminate ACS' market power.

46. Consumers are not insulated from the higher costs of inefficient ILEC operation when CLECs simply re-sell an ILEC's services. The resale rates paid by CLECs generally are determined as a percentage of the ILEC's retail rates. Retail rates, in turn, often reflect the incumbent's realized (not efficient) costs. Consequently, increases in an incumbent's costs may simply trigger higher retail rates for consumers. Therefore, resale-based competition is inherently unable to ensure that retail prices will be driven to the level of competitive costs.[37] Resale-based competition also can limit opportunities for innovation and meaningful service differentiation. Consumers are further harmed by this limitation of resale-based competition.[38]

47. Competition using UNEs secured at negotiated rates also is an inadequate substitute for regulated access to UNEs when an ILEC has wholesale market power. Regardless of the intensity of retail market competition, CLECs will be unable to drive retail prices to competitive levels if they are unable to acquire UNEs at rates that reflect the costs of an efficient wholesale

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[36] The Commission explains that "supply elasticity refers to the ability of suppliers in a given market to increase the quantity of service supplied in response to an increase in price" and notes that supply elasticity will tend to be high when "existing competitors have or can relatively easily acquire significant additional capacity [and in] the absence of significant barriers to entry …" [*Omaha Decision*, ¶35]

[37] In part because GCI's operations were primarily UNE-based rather than resale-based, GCI was able to avoid replicating the substantial rate increase that ACS imposed in Anchorage in November 2001. See the Declarations of Dana Tindall and Gina Borland for additional detail.

[38] The Commission has noted that it is difficult for CLECs "to distinguish their resale offering from the offering of the incumbent LEC on the basis of innovative products or features. Hence, … the value of a resale option to the creation of competitive markets is diminished." [*Omaha Decision*, ¶89]

supplier. Absent robust competition among wholesale suppliers of UNEs and absent CLEC ability to self-provision economically, ILECs will have substantial ability to raise UNE rates above the costs of an efficient supplier. With no economical alternatives to the vital inputs offered by the ILEC, a CLEC that wishes to continue serving its customers will be compelled to pay the high rates demanded by the ILEC.[39] Consequently, if impaired CLECs are denied regulated access to UNEs, ILECs can employ their wholesale market power to raise the costs of their retail rivals and thereby drive retail prices above competitive levels. Indeed, as illustrated in section 2, even when ILECs face substantial retail competition, they may be able to employ their wholesale market power to force monopoly retail prices.

48. A requirement that UNE rates simply be "just and reasonable" [*47 U.S.C. §201(b)*] will not ensure that the rates reflect the costs of an efficient wholesale supplier. Under pre-1996 Act regulations, "just and reasonable" rates reflected historical (embedded) costs rather than efficient (forward-looking) costs. Rates based on embedded costs are inferior to rates based on forward-looking costs for at least two reasons. First, rates that reflect embedded costs do not provide strong incentives for efficient operation. When rates increase as costs increase, an ILEC has limited incentive to constrain costs. Consequently, even when UNE rates are "just and reasonable" in the sense that they reflect embedded costs, the rates can exceed the costs of an efficient supplier of UNEs.

49. Second, UNE rates based on embedded costs can reflect substantial common costs. To illustrate, an ILEC might decide to upgrade its loop plant to be better able to deliver high speed data services. Loop rates that include the costs of this upgrade would exceed the costs an efficient supplier would incur to provide basic voice grade telecommunications services. Consequently, CLECs – and ultimately consumers of basic services – would be required to finance the costs of other services if UNE rates simply reflect embedded costs rather than the costs of an efficient supplier of basic telecommunications services.

50. The Commission has noted the drawbacks to rates based on embedded costs and concluded that an "'embedded cost'-based pricing methodology would be pro-competitor – in this case the incumbent LEC – rather than pro-competition. We therefore decline to adopt embedded cost as the appropriate basis of setting prices for interconnection and access to

[39] High UNE rates (and associated high retail rates) can emerge from negotiations between an ILEC and a CLEC even when they have comparable bargaining power (Sappington and Unel, 2005).

unbundled elements. Rather, we reiterate that the prices for the interconnection and network elements critical to the development of a competitive local exchange should be based on the pro-competition, forward-looking, economic costs of those elements …" [*Local Competition Order*, ¶705][40] The Commission is correct in employing a forward-looking pricing methodology to limit the ability of ILECs to set high UNE rates.

51. To accompany their pronounced *ability* to impose high UNE rates under forbearance, ILECs would have substantial *incentive* to charge high UNE rates.[41] This incentive stems from at least four sources. First, a high UNE rate secures high revenue (and thus substantial profit for the ILEC) on each UNE sold to a CLEC. As explained in section 2, ILECs are just as happy to extract monopoly profit from wholesale operations as they are to extract monopoly profit directly from retail customers.[42]

52. Second, as illustrated in section 2, when CLECs are forced to pay high prices for inputs, they will be compelled to set high retail prices. High CLEC prices allow the ILEC to set high retail prices without eroding its customer base, and thereby enjoy greater profit.

53. Third, even if a CLEC ultimately will be able to serve a customer economically using its own facilities exclusively, an ILEC may benefit by instituting high UNE prices that force the CLEC either to raise its prices substantially or to temporarily discontinue service to some of its customers. Customers seldom forgive the CLEC that raises their prices dramatically or discontinues their service. Consequently, an ILEC may acquire a strategic advantage in future

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[40] *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket Nos. 96-98, 95-185, First Report and Order, 11 FCC Rcd 15499, 15846-50.

[41] Thus, for the reasons discussed in section 8, ACS' contention that it is likely to voluntarily negotiate reasonable UNE rates with GCI lacks credibility. [*ACS Petition*, pp. 29, 34]

[42] ACS sought a monthly UNE rate of $25.88 for a DS-0 loop in recent arbitration. (*In the Matter of the Petition by GCI Communications Corp. d/b/a General Communication, Inc., and/b/a GCI for Arbitration Under Section 252 of the Telecommunications Act of 1996 with the Municipality of Anchorage d/b/a Anchorage Telephone Utility a/k/a ATU Telecommunications for the Purpose of Instituting Local Exchange Competition*, Docket U-96-089, ACS of Anchorage, ACS-ANC and GCI Interconnection Agreement (proposed), Part C, Attachment 1 at 27, filed May 12, 2004) [*Anchorage Arbitration Petition*] This rate exceeds even ACS' most recent NECA reported study area monthly average unseparated cost per loop of $24.62. [*Universal Service Fund Data: NECA Study Results*, File USF2005LC05.xls in USF05R04.ZIP at http://www.fcc.gov/wcb/iatd/neca.html]

competition with CLECs by forcing the CLECs to raise prices substantially or discontinue service temporarily during the transition to full facilities-based competition.[43]

54. Fourth, ILECs can benefit in several ways by withholding UNEs entirely or otherwise making them so costly that CLECs are compelled to terminate their operations. Obviously, when they drive their retail competitors from the market altogether or from segments of the market, ILECs with retail pricing flexibility enjoy expanded freedom to raise prices and thereby increase profit. Even when transient retail rate regulation temporarily precludes price increases, an ILEC can be certain to secure the most profitable accounts (often those of business customers) by raising its rivals' costs to the point where rivals cannot economically compete for these accounts. In addition, by making it prohibitively costly for CLECs to supply voice services, ILECs can establish themselves as the exclusive providers of the bundles of voice, data, and video services that many customers value highly. In doing so, ILECs can secure the substantial revenue that these bundled offerings command. By driving competing suppliers of basic local exchange and exchange access service from the market, ILECs also can avoid losing universal service support.[44]

55. In summary, neither resale based competition nor competition based upon negotiated UNE prices can be relied upon to drive retail prices to competitive levels. Consequently, efficient CLECs that are denied regulated access to UNEs can only be expected to eliminate an ILEC's market power (and thus forbearance only is appropriate) when CLECs can serve all relevant customers economically either by securing UNEs at competitive rates from non-ILECs or by using their own facilities exclusively.

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[43] Because GCI presently serves nearly 70% of its telephone customers via loops supplied by ACS, GCI would be particularly vulnerable to the substantial increase in UNE prices ACS would impose (or the limited supply of UNEs ACS would offer) if forbearance were implemented in Anchorage. High UNE prices and limited UNE supply could force GCI to discontinue facilities-based service to many of its customers. In addition to seriously damaging GCI's reputation, such service terminations would truncate valuable revenue streams that GCI is employing to finance the transitioning of many customers to full facilities-based operation. (See the Declaration of Gina Borland.) These strategic considerations may help to explain the timing of ACS' premature call for forbearance.

[44] 47 CFR 54.307(a) states "A competitive eligible telecommunications carrier shall receive universal service support to the extent that [it] captures the subscriber lines of an incumbent local exchange carrier (LEC) or serves new subscriber lines in the incumbent LEC's service area."

5. The Reasonably Efficient Competitor Standard.

56. The Commission has determined that the critical question in assessing whether a CLEC can operate economically without access to UNEs (and therefore whether CLECs would be able to eliminate ILEC market power if they were denied access to UNEs) is "whether lack of access to an incumbent LEC network element poses a barrier or barriers to entry … that are likely to make entry into a market uneconomic … [by] a reasonably efficient competitor." [*TRO Remand*, ¶22] The Commission also notes that "In analyzing entry from the perspective of the reasonably efficient competitor, we do not attach weight to the individualized circumstances of the actual requesting carrier." [*TRO Remand*, ¶26]

57. The use of this "reasonably efficient competitor" standard is appropriate for at least three important reasons. First, case-by-case analyses require substantial resources to implement, and so would be unduly burdensome for the Commission.

58. Second, the reasonably efficient competitor standard provides appropriate incentives to CLECs. If this standard is not employed, a CLEC might be afforded ongoing regulated access to UNEs simply because it is inefficient in operating without such access. Furthermore, if the standard is not employed, a CLEC that has put forth exceptional effort to enable economic operation without UNEs in one geographic region might be required to operate without regulated access to UNEs in other regions, even though such operation is substantially more costly in the other regions. Such a policy would discourage a CLEC from employing its own facilities exclusively to provide service in any portion of its operating territory until it is highly capable of doing the same throughout its operating territory. Such a policy would thereby hinder the development of full facilities-based competition, which is contrary to the public interest.

59. Third, the reasonably efficient competitor standard limits undue reliance on duopoly wholesale markets. Even if an exceptionally efficient CLEC could operate economically without regulated access to UNEs, other (reasonably efficient) CLECs may not be able to do so. Consequently, the ILEC and the exceptionally efficient CLEC may be the only firms that are able to supply UNEs to other CLECs. Although such duopoly supply is preferable to monopoly supply, duopolies often fail to deliver the vibrant competition that ensures competitive prices.[45]

[45] In assessing the UK's experience with duopoly competition in its telecommunications industry, Armstrong et al. (1994, pp. 240-241) conclude "… the duopoly policy has been detrimental to the development of competition. … [The] duopoly policy … acted to preserve the essentially monopolistic

The reasonably efficient competitor standard helps to ensure that entry into relevant wholesale markets is economic for all reasonably efficient CLECs, and thereby helps to ensure that the competitive pressure required to drive input prices to efficient cost levels will be present on an ongoing basis.

60. At least in regions where GCI can reasonably employ its cable plant to supply relevant services, GCI's (incremental) costs of providing these services may be lower than the corresponding costs of reasonably efficient competitors that do not have established cable networks. Consequently, although it may be economic for GCI to serve some customers in relevant geographic markets in Anchorage, such service may be uneconomic for a reasonably efficient competitor.

61. In summary, the reasonably efficient competitor standard helps to conserve scarce Commission resources, provides appropriate incentives for CLEC investment, and can help to avoid undue reliance on duopoly wholesale markets. Consequently, as the Commission has determined, the reasonably efficient competitor standard is the appropriate standard to employ in determining whether forbearance from unbundling obligations is in the public interest.

6. Balancing the Benefits and Costs of Forbearance.

62. Unbundling is not a costless process. Consequently, timely forbearance has its benefits. However, premature forbearance can impose substantial costs. Appropriate forbearance policy must balance carefully the benefits of timely forbearance against the costs of premature forbearance.

A. The Benefits of Timely Forbearance.

63. Timely forbearance can provide at least three important benefits. First, timely forbearance can enhance incentives for ILEC investment in settings where ILECs are not undertaking efficient investment for fear of being required to make the investment available to competitors at non-compensatory rates. Of course, where appropriate, exemptions from

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character of the old system in the core area of network competition. Neither did the duopoly policy enhance the prospects for competition in the longer term." Newbery (1999, p. 324) provides corroborating evidence, noting sharp increases in productivity only after the termination of the duopoly policy. Based on experience in the U.S. cellular industry, Parker and Röller (1997, p. 321) conclude "We find a need for public concern, as the duopolistic industry structure generally appears to be significantly more collusive than a noncooperative duopoly. The evidence suggests that cellular prices are significantly above competitive levels."

unbundling requirements for new ILEC investment can alleviate this concern without incurring the costs of more widespread premature forbearance. Furthermore, TELRIC rates are intended to be compensatory for an efficient ILEC, and so will not be confiscatory for an efficient ILEC when the rates are designed properly.[46]

64. Second, timely forbearance can eliminate some of the costs associated with determining and implementing appropriate regulated UNE rates. In practice, these regulatory costs can be substantial.[47] However, corresponding costs typically arise even in unregulated settings. Parties to commercial transactions routinely incur nontrivial costs associated with negotiating, monitoring, and enforcing formal agreements.

65. Third, timely forbearance (with appropriate transition periods) can speed the transition from regulation to competition in settings where CLECs have entered the market and gained market share using UNEs but continue to use UNEs even though they are presently able to compete profitably using their own facilities exclusively. It is important to note in this regard that GCI is transitioning customers to its own facilities rapidly even though no regulation compels it to do so. GCI is anxious to end its dependence on its retail rival, and so is working diligently to implement full facilities-based operation to the extent possible. [Declarations of Gina Borland, Richard Dowling, and Gary Haynes] Even ACS acknowledges that "GCI is aggressively migrating its customers off of ACS' network and onto its own switched cable telephony network." [*ACS Petition*, p. 31] Consequently, this potential benefit of timely forbearance appears to be of limited relevance in the present proceeding.[48]

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[46] If ACS truly believes it faces "below cost" UNE rates [*ACS Petition*, p. 41], forbearance is not the appropriate remedy for this perceived problem. As the Commission has noted, "If rules other than those implementing section 251(d)(2) are impeding the development of competition – either by preventing competitive entry or by fostering excessive reliance on UNEs – parties should seek redress of the problematic rules themselves, rather than attempt to tilt the unbundling framework to account for the asserted deficiency." [*TRO Remand*, ¶38] It is notable that the latest UNE rates were set in an arbitration conducted following and in light of the Commission's *TRO Order*, in which the Commission clarified its rules regarding appropriate depreciation rates and capital costs.

[47] The Commission observes that "unbundling can create disincentives for incumbent LECs and competitive LECs to deploy innovative services and facilities, and is an especially intrusive form of economic regulation – one that is among the most difficult to administer." [*TRO Remand*, ¶36]

[48] The Declaration of Richard Dowling reviews the substantial progress GCI has made in transitioning to full facilities-based operation despite the many impediments it faces. Some of these impediments are reviewed in the Declarations of Blaine Brown, Richard Dowling, and Gary Haynes.

B. The Costs of Premature Forbearance.

66. Premature forbearance can introduce at least five important costs. First, premature forbearance can deprive some customers of the low prices they presently enjoy. This will be the case when the denial of regulated access to UNEs renders CLECs unable to serve some of their customers economically within a commercially reasonable period of time. In areas where GCI's cable plant is not yet capable of delivering telephone service and for services that GCI cannot deliver economically deliver over its cable or fiber plant, GCI will be unable to serve customers economically within a commercially reasonable period of time. The Declaration of Gary Haynes explains that GCI cannot deliver telephony service over its cable plant until relevant nodes are upgraded. The Declarations of Gary Haynes and Lisa Wurts further demonstrate that even after nodes are upgraded, GCI will be unable to provide telephony service over its cable facilities to some customers for a considerable period of time because of the need to upgrade drops. The Declaration of Gary Haynes further states that GCI cannot employ its cable plant to provide high capacity services to some business customers. Furthermore, the Declaration of William Zarakas demonstrates that GCI cannot serve any but the largest enterprise customers economically using its fiber plant. Consequently, under forbearance, GCI would be compelled either to terminate service to many customers or to serve them through resale or higher priced UNEs. These customers would be denied the lower prices that market competition can secure.[49]

67. Second, premature forbearance can reduce relevant supply elasticities by discouraging CLECs from entering the industry or expanding their operations. Premature forbearance allows ILECs to raise UNE prices unduly (or simply decline to supply UNEs and force CLECs to employ resale) and thereby render CLEC operation less profitable (and perhaps entirely unprofitable). Consumers are harmed when limited CLEC operation reduces the intensity of market competition and enables ILECs to exercise market power.

68. Third, premature forbearance can deter full facilities-based competition. If access to UNEs at regulated rates is withdrawn ubiquitously as soon as a CLEC demonstrates some ability to operate without UNEs in selected geographic regions, CLECs will rationally refrain from demonstrating their ability to serve any customers using their own facilities exclusively. Consumers are harmed when full facilities-based investment is deterred by premature forbearance.

[49] Such termination also forces affected customers to bear the costs associated with switching suppliers.

69. Fourth, premature forbearance can reduce CLEC investment and induce the adoption of inefficient production techniques. For example, forbearance from access to UNEs could force CLECs to resell ILEC services rather than use their own switch – which is the platform for providing many innovative enhancements as well as customer conveniences such as location portability – combined with a UNE leased from the ILEC.[50] Industry innovation and the intensity of industry competition can be expected to decline if facilities-based competition is replaced by resale competition, in part because a CLEC that does not provide its own switching cannot provide new service features or control the bundling of those features. The Declaration of Dana Tindall explains how GCI's use of its own switch allowed it to introduce innovative services that it could not have provided using resale.

70. Fifth, premature forbearance can reduce the intensity of long-term industry competition by tarnishing the image of CLECs who are forced to terminate service to customers or raise their prices dramatically. When consumers are inconvenienced, they typically attribute the inconvenience to their current supplier. If a CLEC's brand image is tarnished by inappropriate changes in regulatory policy, the CLEC's long-term ability to limit the market power of incumbent suppliers may be jeopardized.

C. Balancing Benefits and Costs.

71. In practice, it generally is difficult to predict perfectly the level of competitive discipline CLECs will be able to impose if they are denied regulated access to UNEs. Consequently, it can difficult to determine precisely whether forbearance is appropriate in a relevant market at any given point in time. In designing forbearance policy, the potential benefits of timely forbearance and the potential costs of premature forbearance must be balanced carefully to make appropriate forbearance decisions.

72. The reasonably efficient competitor standard is an important element of this balancing. This standard will conserve scarce Commission resources, promote valuable incentives, and limit undue reliance on duopoly wholesale markets, for the reasons identified in section 5. Evidence that even an exceptionally efficient competitor would be impaired if it were denied regulated

[50] The Declaration of Gina Borland explains why forbearance from unbundling obligations in Alaska would slow the development of full facilities-based operation by compelling GCI to divert its present focus on transitioning customers to full facilities-based service to transitioning customers to resale-based service.

access to UNEs can constitute compelling evidence that a reasonably efficient competitor also would be impaired.

73. In seeking forbearance, ILECs must demonstrate that they would possess no market power if reasonably efficient CLECs were denied regulated access to UNEs. Importantly, such demonstration requires showing an inability to raise prices above competitive levels both in relevant retail markets and in relevant wholesale markets.[51]

74. Industry uncertainty would be reduced (and thus incentives for industry participation and investment would be enhanced) if the basic principles that will govern forbearance decisions were specified clearly far in advance of actual forbearance. Reasonable transition periods should be adopted as these principles are formulated and implemented.[52] Reasonable transition periods following the clear enunciation of forbearance principles (which have not yet been formulated) can help to limit some of the costs of premature forbearance identified above.

7. Forbearance in Anchorage is Contrary to the Public Interest.

75. A careful balancing of the benefits of timely forbearance and the costs of premature forbearance makes it clear that forbearance presently is inappropriate in Anchorage. As noted above, a principal potential benefit of timely forbearance is of limited importance in the present setting. GCI does not need to be compelled to pursue full facilities-based operation. ACS observes that "GCI is aggressively migrating its customers off of ACS' network and onto its own switched cable telephony network" in the absence of any regulatory mandate to do so. [*ACS Petition*, p. 31] The Declaration of Richard Dowling notes the substantial progress GCI has made in this regard, despite the many obstacles it has encountered. The Declaration of William Zarakas supports ACS' observation that GCI is aggressive pursuing full facilities-based operation where such operation is economic. Thus, GCI appears to need no regulatory prodding to induce it to pursue full facilities-based operation as such operation becomes economic.

76. While the benefits of forbearance in Anchorage are limited, the corresponding costs are pronounced. ACS would enjoy market power in many relevant markets if CLECs were denied

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[51] As explained more fully in section 8, ACS' appeal for forbearance fails to recognize adequately its wholesale market power.

[52] Reasonable transition periods need not be uniform throughout the nation. As explained in the Declarations of Gina Borland and Gary Haynes, the transition to full facilities-based operation can be slowed considerably by weather conditions of the sort that prevail in Anchorage.

access to UNEs at regulated rates in Anchorage. ACS' market power would stem from its status as the dominant supplier of key inputs (e.g., loops). As noted above, more than 80% of the switched lines in service in Anchorage employ loops supplied by ACS,[53] and the potential for additional non-ACS supply within a commercially reasonable period of time is limited. Under forbearance, ACS could and would employ its control over key inputs to raise its rival's costs, and thereby compel its rivals either to stop serving customers or to raise retail prices substantially. The rosy picture of retail competition that ACS paints would change rapidly if ACS were permitted to employ its wholesale market power to seriously undermine the operations of its retail competitors.

77. The fact that GCI has transitioned some of its customers to its own facilities does not imply that it can economically transition all of its customers to its own facilities. Although GCI's present plan to transition additional customers to full facilities-based operation may be economic, GCI cannot presently employ such operation to serve many residential customers economically. Nor can GCI economically employ its own facilities exclusively to serve medium and large business customers. Furthermore, the fact that GCI plans to transition more customers to its own facilities over a reasonable time horizon does not imply that GCI can economically effect a more rapid transition. For the reasons noted in section 3C and explained in more detail in the Declarations of Richard Dowling and Gary Haynes, irrationally rapid transition may not even be feasible and certainly can be far more costly than the timely transition that GCI plans to undertake in the coming months. As described in Ms. Borland's declaration, even if feasible, such a transition would likely cause significant customer disruption and competitive harm to GCI.

78. Forbearance in Anchorage also would create detrimental incentives for CLECs throughout the United States. If GCI is punished for demonstrating that it can supply service to some customers using solely its own facilities (and announcing plans to transition more customers to its own facilities as it becomes economic to do so), CLECs elsewhere will realize that pronounced facilities-based operation and timely transitioning of customers to one's own facilities is unwise. To provide the appropriate incentives to all CLECs, it is important that exemplary CLECs not be punished for leading the way toward full facilities-based competition.

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[53] See the Declaration of William Zarakas.

79. In summary, the costs of forbearance in Anchorage outweigh any potential benefits. Forbearance would leave retail customers vulnerable to ACS' market power, produce supracompetitive wholesale and retail prices, and limit incentives for full facilities-based competition. Consequently, forbearance from unbundling obligations in Anchorage is contrary to the public interest.

8. Rebuttal Arguments.

80. I now identify some of the many errors in the arguments ACS employs in its petition for forbearance from unbundling obligations in Anchorage.

A. GCI would be impaired without regulated access to UNEs.

81. ACS claims that GCI "is not impaired without access to UNEs" [*ACS Petition*, p. 3]. The Declaration of William Zarakas demonstrates that this claim is incorrect. If GCI were denied access to UNEs, GCI would be unable to serve many medium and large enterprise customers economically. GCI might also be unable to serve residential customers in MDUs economically. Furthermore, if GCI were abruptly compelled to rely on its own facilities exclusively, it likely would become physically impossible or economically infeasible for GCI to serve many of the residential customers that it presently plans to transition to full facilities-based operation in the near future.

82. Professor Shelanski contends that GCI's success in attracting retail customers "using exclusively or primarily its own facilities" makes "the case against impairment, and hence against unbundled access, an overwhelming one in the Anchorage Study Area" [*Shelanski Statement*, ¶5].[54] This contention is both superficial and incorrect for at least three reasons.

83. First, even when a CLEC operates "primarily" using it own facilities in one product and geographic market, it may be impaired if it is denied regulated access to UNEs in other product and geographic markets. Despite its extensive facilities-based operations, nearly 70% of the switched lines that GCI provides in Anchorage employ loops supplied by ACS.[55] Forbearance would allow ACS to raise dramatically the prices of these essential inputs or even make the

[54] *Statement of Howard A. Shelanski in Support of Petition of ACS of Anchorage, Inc. for Forbearance From Sections 251(c)(3) and 252(d)(1)*, WC Docket No. 05-281, September 30, 2005.

[55] See the Declaration of William Zarakas.

inputs unavailable to GCI. Consequently, forbearance could make it uneconomic for GCI to serve many of its present customers and new customers alike.

84. Second, even if a CLEC serves some of its customers using its own facilities exclusively, the CLEC (and other reasonably efficient competitors) may be impaired if regulated access to UNEs is denied. GCI presently can serve some customer groups in certain geographic markets economically using it own facilities exclusively, and GCI is doing so. However, GCI cannot presently operate economically in many relevant markets using its own facilities exclusively, nor will it be able to do so in the near future. As noted above, GCI cannot presently serve many residential customers economically using its own facilities exclusively. Nor can GCI economically serve many medium and large enterprise customers. Furthermore, abrupt termination of UNEs could well make it physically impossible or economically infeasible in the short run for GCI to serve even the residential customers it ultimately plans to transition to full facilities-based operation. Consequently, any contention that a reasonably efficient competitor can serve all customers in Anchorage economically via full facilities-based operation because GCI is able to serve some customers in this manner is unfounded.

85. Third, GCI's past retail success in a setting where it is has been afforded regulated access to UNEs may be a very poor indicator of its future retail success in a setting where such access is denied. Therefore, Professor Shelanski's appeal for forbearance in Anchorage based on the Commission's conclusion that it will "deny access to UNEs in cases where the requesting carrier seeks to provide service exclusively in a market that is sufficiently competitive without the use of unbundling" [*TRO Remand*, ¶34] is not well-founded. Prevailing market shares in Anchorage have not been achieved "without the use of unbundling."[56]

86. Fortunately, the Commission is well aware of the need to distinguish between competition derived from regulated access to UNEs and other forms of competition. The Commission limited the forbearance it granted to Qwest in Omaha to wire center service areas in which Cox had demonstrated considerable ability to provide local exchange and exchange access service economically "without relying on Qwest's local exchange facilities." [*Omaha Decision*, ¶81] The Commission has noted that a competitor "is not able to provide the same level of

[56] As the Commission notes, "to the extent that competition has evolved in the local exchange services market, … such competition has not evolved without UNEs. Instead, … competition in this market has been substantially affected by, if not enabled by, the availability of UNEs." [*TRO Remand*, ¶38]

competition where it does not have extensive [facilities] coverage as where it has such coverage," and so has correctly concluded that "forbearing from section 251(c)(3) and the other market-opening provisions of the Act … where no competitive carrier has constructed substantial competing "last-mile" facilities is not consistent with the public interest …" [*Omaha Decision*, ¶60]

B. ACS would enjoy market power if forbearance were adopted in Anchorage.

87. Because GCI and reasonably efficient competitors would be impaired without regulated access to UNEs, ACS would enjoy market power if forbearance were adopted in Anchorage. For the reasons identified above, CLECs must either have access to non-ACS UNEs at competitive rates or be able to serve customers economically using full facilities-based operation if ACS' wholesale market power is to be constrained. (Resale-based competition and competition based on negotiated UNE rates will not eliminate market power.)

88. ACS attempts to understate its market power and overstate relevant supply elasticities by noting that a substantial number of customers chose to purchase telephone service from GCI rather than from ACS when ACS raised its retail rates by 24% in November 2001. ACS asserts that GCI's ability "to absorb all the new customers without capacity constraint" … "underscores the supply elasticity in the Anchorage market." [*ACS Petition*, pp. 38-39] Similarly, Professor Shelanski asserts "Such elasticity of competitive supply and demand could not exist in a market where the incumbent has market power." [*Shelanski Statement*, ¶12] These assertions are (at best) misleading because they do not distinguish between outcomes that occurred when GCI had regulated access to UNEs and the outcomes that are likely to occur if such access is denied.

89. GCI purchased UNEs from ACS at regulated rates to serve most, if not all, of the customers in Anchorage who chose not to bear the 24% price increase that ACS implemented in November of 2001. The relevant question today is whether GCI would be able to serve economically all customers that would like to escape additional substantial price increases that ACS might implement. Under forbearance, ACS could make it difficult or impossible for GCI to serve these customers. ACS would have considerable latitude to employ its position as the dominant supplier of key inputs in Anchorage to raise the costs of GCI and other CLECs, and thereby prevent its competitors from offering low prices to disgruntled ACS customers.

90. As explained in section 2, an ILEC like ACS that is a dominant supplier of essential inputs has considerable ability and incentive to raise its rivals' costs, and thereby induce higher

retail prices. This is the case regardless of retail market shares. Had forbearance empowered ACS to do so in 2001, ACS gladly would have increased UNE prices to a level that prevented GCI from economically offering lower prices to many unhappy ACS customers. Because Professor Shelanski and ACS focus their discussion on retail market shares and largely ignore the substantial market power that ACS derives from its dominant control of essential inputs, their claims of limited market power for ACS are not credible.

C. ACS would exercise its market power if forbearance were adopted in Anchorage.

91. Competitive retail prices will materialize only if multiple retail operators have access to essential inputs at rates that reflect the costs of an efficient wholesale supplier. Given its wholesale market power, ACS will not make UNEs available to CLECs at such rates if it is not compelled to do so by regulation.

92. To its credit, ACS does not claim that it will offer such competitive rates. ACS asserts only that it is in its "financial self-interest to negotiate market-based terms for UNEs in Anchorage." [*ACS Petition*, p. 43] Because ACS does not define the term "market-based," ACS provides little insight about the extent to which it will employ its wholesale market power to raise the costs of its retail rivals and thereby raise retail prices above competitive levels.

93. However, ACS appears to suggest that the UNE rates it negotiated with GCI in Fairbanks and Juneau may be indicative of the rates that are likely to emerge from voluntary negotiation in Anchorage if forbearance is adopted in Anchorage. [*ACS Petition*, pp. 34-35] For the reasons explained in greater detail in Dana Tindall's declaration, this suggestion is disingenuous at best. After making contradictory representations to potential investors and to the Regulatory Commission of Alaska, ACS was highly motivated to avoid further embarrassment and to foster some regulatory goodwill. Absent ongoing regulatory surveillance and absent an ongoing need to save face, ACS is highly likely to be more obstinate in any future voluntary negotiations with GCI and other CLECs.[57]

[57] ACS recently requested a monthly rate of $25.88 for a DS-0 loop in Anchorage. [*Anchorage Arbitration Petition*] ACS may well insist on recovering at least this amount in any negotiations with GCI. If successful in this regard, ACS would raise the price GCI must pay for this essential input by nearly 40% (from the $18.64 established in the *GCI/ACS of Anchorage Interconnection Agreement*, Part C, Effective November 26, 2004 to $25.88). Retail customers are almost certain to be asked to bear a substantial portion of this dramatic cost increase.

94. ACS also appears to suggest that reasonable UNE rates will be negotiated under forbearance in Anchorage when it asserts "GCI's and ACS's bargaining power have equalized", citing "GCI's substantial market share and extensive facilities." [*ACS Petition*, p. 31] Similarly, Professor Shelanski claims "ACS and GCI have comparable market share and, with forbearance, would enjoy comparable bargaining power." [*Shelanski Statement*, ¶24] These suggestions are implausible for at least two reasons. First, retail market share is not a reliable measure of bargaining power, just as it is not a reliable measure of market power. Indeed, the greater the number of profitable retail customers that GCI serves, the more determined ACS likely will be to charge high UNE prices or withhold UNEs altogether in order to limit (if not eliminate) GCI's ability to serve those customers. Second, as noted above, GCI continues to serve the majority of its customers using UNEs secured from ACS, ACS continues to supply the lion's share of loops in Anchorage, and expanded supply by alternative providers seems unlikely in the near future. Thus, just as it ignores wholesale market conditions in understating its market power, ACS downplays its dominance of relevant wholesale markets in understating its bargaining power.

95. ACS also claims that "Because ACS desires access to GCI's facilities in areas where ACS's network does not reach, ACS has substantial incentives to negotiate reasonable rates and terms for GCI's use of ACS's facilities in order to obtain similarly reasonable access to GCI's facilities." [*ACS Petition*, p. 43] ACS' logic in this instance might have some merit if ACS and GCI had exclusive access to comparable numbers of customers. Such symmetry is not present in Anchorage, however. ACS is able to identify only "several subdivisions on Elmendorf Air Force Base and two commercial office buildings" in which GCI is the only carrier with loop facilities. [*ACS Petition*, p. 13] Approximately 700 customers are served on Elmendorf Air Force Base using GCI's loops.[58] In contrast, more than 145,000 of the roughly 179,000 switched lines in service in Anchorage (81%) presently are served using ACS loops.[59] The asymmetry in the number of customers for whom ACS and GCI can serve as the exclusive facilities-based operator is striking. The asymmetry casts serious doubt on ACS' claim that it will have "substantial incentives to negotiate reasonable rates" for UNEs.

96. Thus, ACS' vague assertions and promises of "market-based" UNE rates make apparent the fact that if its petition for forbearance is granted, ACS will exercise its market power in

[58] See the Declaration of Blaine Brown.

[59] See the Declaration of William Zarakas.

Anchorage. It will do so either by declining to supply UNEs or by charging supracompetitive prices for UNEs. Both actions will cause retail rates for telecommunications services in Anchorage to rise above competitive levels.

D. Retail market share is not a reliable measure of market power.

97. ACS points to prevailing retail market shares to support its claim that it would not be able to exercise market power if forbearance were adopted. This argument is fundamentally incorrect for at least three reasons.

98. First, markets shares are notoriously poor indicators of market power in general. Market *shares* provide little information about price *levels*, which are of central importance in assessing market power.

99. Second, market shares can be particularly poor indicators of market power in regulated industries where prevailing market shares may largely reflect past and present regulatory policy (e.g., regulated access to UNEs and limited pricing flexibility for incumbent suppliers). In assessing the merits of forbearance, one must assess likely market power when access to UNEs at regulated rates is not mandated and when retail rate regulation is not imposed. Prevailing market shares may not even predict future market shares well under such conditions, and they are likely to be particularly poor indicators of future market power.

100. Third, and perhaps most importantly, retail market shares fail to measure wholesale market power. As explained in section 2, even if a CLEC serves the vast majority of retail customers (both presently and in the future), those customers will not be well served if an ILEC has substantial market power in the provision of key wholesale services. By charging high prices for (or limiting the supply of) key inputs, the ILEC can raise its rivals' costs and thereby force them to charge high retail prices to consumers. Under these circumstances, retail customers may be harmed by prices well above competitive levels even in the presence of intense competition among retail suppliers.[60]

[60] A forbearance policy based on retail market shares also can limit incentives for intense market competition. An incumbent supplier may not compete aggressively to maintain its market share if, by reducing its share of the retail market, the incumbent can secure greater flexibility in setting wholesale prices. A CLEC may compete less vigorously for customers if it recognizes that success in this regard will be punished with more limited access to UNEs at regulated rates.

E. Wholesale market power is of central concern.

101. ACS consistently fails to recognize the link between its dominant position in relevant wholesale markets and its ability to raise retail prices, even in the presence of intense retail competition. By ignoring the well-established economic principles and the consistent Commission policy reviewed in section 2, ACS fails to account adequately for the central issue in the present proceeding: ACS' dominant position in relevant wholesale markets endows it with the ability to raise the costs of its retail rivals, and thereby raise retail rates above competitive levels.

102. The rationale for ACS' assertion that "GCI has as much 'market power' in Anchorage as ACS" is difficult to discern. [*ACS Petition*, p. 6] ACS and GCI may have comparable retail market shares, but comparable retail market shares do not imply comparable market power. Professor Shelanski appears to recognize the importance of considering wholesale market power when he states "Once the evidence shows that a competitive entrant suffers no impairment … the state of the wholesale input market is irrelevant." [*Shelanski Statement*, ¶21] However, aside from the critical fact that no lack of impairment has been established in Anchorage,[61] this statement ignores the important distinction between the capabilities of a particularly efficient CLEC and a reasonably efficient CLEC. Even if an exceptionally efficient CLEC were not impaired when denied regulated access to UNEs, reasonably efficient CLECs might be so impaired. Consequently, reasonably efficient CLECs could not be relied upon to dissipate the ILECs market power, and so the fate of retail consumers would rest on the performance of duopoly wholesale markets. As noted in section 5, there is substantial empirical evidence that consumers often are not protected adequately by duopoly competition (e.g., Armstrong et al., 1994; Parker and Röller, 1997; Newbery, 1999).

F. Entry barriers persist in Anchorage.

103. ACS asserts "There are no barriers to entry in the Anchorage wholesale market." [*ACS Petition*, p. 35][62] ACS attempts to support this assertion by contending that "in Anchorage, there

[61] To the contrary, the Declarations of Blaine Brown, Gary Haynes, and William Zarakas provide strong evidence of impairment in relevant markets in Anchorage, consistent with the Commission's national finding of DS0 loop impairment.

[62] Similarly, Professor Shelanski asserts "GCI does not face barriers to facilities-based entry …" [*Shelanski Statement*, ¶14]

are no entry barriers, only costs of doing business." [*ACS Petition*, p. 35] This contention is incorrect as a matter of logic and fails to establish the absence of entry barriers.

104. An entry barrier is commonly defined as "a cost of producing … which must be borne by firms which seek to enter an industry but is not borne by firms already in the industry" (Stigler, p. 67). Therefore, by definition, high costs that CLECs alone must bear to serve customers constitute an entry barrier.

105. The Declarations of Blaine Brown, Richard Dowling, Gary Haynes, and William Zarakas document the high costs CLECs must incur to serve customers using their own facilities exclusively. These high costs constitute entry barriers in relevant markets in Anchorage. The entry barriers support ACS' wholesale market power.[63] Forbearance in Anchorage is contrary to the public interest precisely because of ACS' persistent wholesale market power.

G. ACS exaggerates the extent of intermodal competition.

106. Continuing its misplaced focus on the intensity of retail competition, ACS claims customers in Anchorage presently "can obtain effective substitutes to ILEC services using commercial wireless radio services ("CMRS"), broadband-based VoIP services and other technologies." [*ACS Petition*, p. 16] This claim is misleading in at least two respects. First, to my knowledge, "over-the-top" VoIP with the ability to provide a local Anchorage telephone number is not marketed to consumers in Anchorage.[64] Furthermore, ACS has not provided any basis for concluding that over-the-top VoIP is in the same product market as ACS' local exchange and exchange access services.[65] Second, ACS' claim runs counter to Commission findings. The Commission has noted, for example, that CMRS is "primarily a complementary technology to wireline narrowband service" and that "wireless CMRS connections in general do not yet equal traditional landline local loops in their quality, their ability to handle data traffic, and their ubiquity". [*TRO*, ¶230] The Commission has also observed that "… consumers tend to use

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[63] The Commission has noted that "relevant structural barriers … [include] (1) economies of scale; (2) sunk costs; (3) first-mover advantages; (4) absolute cost advantages; and (5) barriers within the control of the incumbent." [*TRO Remand*, ¶10]

[64] For example, Vonage's website (www.vonage.com/avail.php?lid=nav_avail) does not list Alaska as one of the states in which Vonage offers service.

[65] Absent such evidence, the Commission has declined to include over-the-top VoIP services in the same product market as traditional wireline local service. [*SBC-AT&T Order*, ¶88] and [*Verizon-MCI Order*, ¶89]

wireless and wireline services in a complementary manner and view the services as distinct because of differences in functionality. As a result, a relatively limited number of mass market consumers have chosen to substitute one service for the other."[66] Most recently, even when the Commission has considered some CMRS to be in the same product market as wireline local exchange service, the Commission failed to find that CMRS "ha[d] a price constraining effect on all consumers' demand for primary line wireline services."[67] Thus, the rationale for ACS' claim that CMRS and VoIP are "effective substitutes" for relevant ILEC services is not apparent.

107. Even if VoIP and CMRS were reasonable substitutes for relevant ILEC services for some customers, VoIP and CMRS would not eliminate ACS' wholesale market power. ACS would still have the ability and incentive to employ its wholesale market power to raise its CLEC rivals' costs and execute a price squeeze. Consequently, ACS' mention of VoIP and CMRS simply diverts attention from the central issue in this proceeding: ACS' wholesale market power.

H. The entirety of Anchorage is not the relevant geographic market.

108. ACS claims (with little relevant supporting detail) that "All areas of the Anchorage study area are equally competitive …" [*ACS Petition*, p. 27] This claim is incorrect. In fact, competitive conditions vary considerably in different parts of Anchorage. GCI does not even have cable plant in the ACS' Girdwood wire center, and so is unable to provide facilities-based competition in this region. Furthermore, the extent to which GCI provides full facilities-based operation varies considerably across ACS' wire centers in Anchorage. GCI serves **[BEGIN CONFIDENTIAL][END CONFIDENTIAL]** of its residential customers in ACS' East wire center using its own facilities exclusively, for example, while GCI employs UNEs secured from ACS to serve **[BEGIN CONFIDENTIAL][END CONFIDENTIAL]** of its residential customers in the O'Malley and Rabbit Creek wire centers.[68]

109. In addition, the costs of implementing full facilities-based operation vary substantially in different geographic regions within Anchorage. Costs vary due to differences in: (i) the extent to which cable plant has been upgraded to permit high quality telephone service; (ii) population

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[66] *Applications of AT&T Wireless Services, Inc. and Cingular Wireless Corporation For Consent to Transfer Control of Licenses and Authorizations*, File Nos. 0001656065, et al., WT Docket Nos. 04-70, 04-254, 04-323, Memorandum Opinion & Order, Released October 26, 2004, ¶239.

[67] [*SBC-AT&T Order*, ¶90, n. 277] and [*Verizon-MCI Order*, ¶91, n. 276].

[68] See the Declaration of William Zarakas.

density; (iii) housing structure (MDUs vs. non-MDUs); and (iv) accessible conduits and rights of way, for example. Such cost variation implies the near-term potential for full facilities-based operation – and thus the relevant intensity of competition – varies substantially across geographic regions within Anchorage.[69]

110. An accurate assessment of ACS' market power requires distinct analyses in regions with distinct competitive conditions. It is entirely possible that a reasonably efficient CLEC would be impaired without regulated access to UNEs in one region of a large geographic region but not in another. Consequently, forbearance would be appropriate in the former region, but not the latter. This is not a "strange result …", nor does it imply that it is appropriate to make a single forbearance decision that necessarily applies to the entire geographic region, contrary to Professor Shelanski's assertions [*Shelanski Statement*, ¶¶14,16]

111. Professor Shelanski's assertions also suggest he believes that because GCI presently serves some customers using only its own facilities, GCI can serve all customers economically using its own facilities exclusively. This belief is incorrect for at least two reasons. First, GCI's costs of full facilities-based operation vary considerably in different geographic markets in Anchorage. Second, GCI's costs of transitioning to full facilities-based operation could increase substantially if it were compelled to implement the transition at an irrationally rapid pace.

112. For reasons of administrative practicality, forbearance decisions can reasonably apply to geographic regions that do not coincide exactly with relevant geographic markets.[70] However, when competitive conditions vary substantially across readily identifiable geographic regions as they do in Anchorage, it is inappropriate to view the entire ACS Anchorage study area as the relevant geographic market. Use of such a broad market definition would fail to account for relevant heterogeneity in competitive conditions within Anchorage and would thereby provide an inaccurate assessment of ACS' market power in relevant geographic markets.

I. Competition should replace – not rely upon – retail rate regulation.

113. ACS suggests that its current obligation to charge uniform retail prices for basic services throughout Anchorage will serve to protect all consumers in Anchorage from ACS' market

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[69] See the Declarations of Blaine Brown, Richard Dowling, Gary Haynes, and William Zarakas.

[70] Some aggregation of relevant geographic markets in which competitive conditions are similar, but not identical, can be reasonable, particularly if ongoing pricing regulations require carriers to charge uniform rates across wide geographic regions.

power, not simply the fortunate customers who would continue to have meaningful competitive choices if forbearance were implemented in Anchorage. [*ACS Petition*, pp. 28-29] As noted above, forbearance is appropriate only when competition can replace retail rate regulation. Reliance on perpetual retail rate regulation to justify forbearance is ill-advised and contrary to the goals of the Act.

114. Even if perpetual retail rate regulation could somehow be guaranteed (despite the recent trend toward increasing pricing freedom for ACS, and despite ACS' acknowledgment that it has applied for and expects to obtain such pricing freedom), uniform price regulations generally do not promote competitive retail prices. ACS will be reluctant to reduce its price aggressively in one portion of Anchorage if doing so will require it to reduce its price throughout Anchorage. Consequently, uniform retail price regulations can induce prices above competitive levels throughout Anchorage.[71]

115. Furthermore, even the current regulations do not preclude ACS from charging different customers different prices for comparable services in Anchorage. Like most suppliers of telecommunications services, ACS responds to competitive pressures by tailoring the prices it charges to medium and large enterprise customers to meet (or beat) the prices offered by competing service providers. If forbearance from unbundling obligations is implemented in Anchorage, ACS will have pronounced ability to raise UNE prices and thereby either preclude GCI from competing effectively for the many enterprise customers that it cannot serve using its own facilities exclusively or force GCI to raise its retail prices substantially.[72] Through such exercise of its wholesale market power, ACS will be able to impose monopoly prices on these enterprise customers even if the prevailing price regulations in Anchorage never change (which is highly unlikely). Forbearance would free ACS to engage in more widespread exploitation if (as seems likely) future regulations endow ACS with expanded retail pricing flexibility.

116. Uniform price requirements also do not ensure uniform service quality. Consequently, customers who live in portions of Anchorage where CLECs are unable to constrain ACS' market power could suffer from reduced service quality, even if they were not charged higher prices than consumers in other portions of Anchorage.

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[71] In this respect, uniform price regulation shares the well-known drawback of promises by unregulated firms to charge the same price to all of their customers (e.g., Cooper, 1986).

[72] See the Declarations of Gary Haynes and William Zarakas.

117. Of course, forbearance also would permit ACS to employ its wholesale market power to raise its rivals' costs and thereby compel high retail prices in Anchorage. Even if retail rates are uniform throughout Anchorage, supracompetitive retail rates harm consumers and are contrary to the public interest.[73]

J. Forbearance will not spur increased CLEC investment.

118. ACS contends that GCI will be compelled to pursue full facilities-based operation more aggressively if it is denied regulated access to UNEs.[74] ACS offers no support for this claim. As noted above, ACS admits that "GCI is aggressively migrating its customers off of ACS' network and onto its own switched cable telephony network." [*ACS Petition*, p. 31] Thus, ACS' contention that forbearance will foster full facilities-based competition may be more an appeal for expanded freedom to exercise its wholesale market power than a principled justification for forbearance.

119. As the Declaration of William Zarakas reveals, GCI would incur financial losses if it were to attempt to serve medium and large businesses using its own facilities exclusively. Losses from serving residential customers who live in MDUs or customers not located on GCI's cable plant also seem likely. Forbearance is unlikely to induce GCI to pursue unprofitable activities. Instead, forbearance primarily would empower ACS to raise its rivals' costs and thereby harm competition and retail customers in Anchorage.

120. ACS recognizes that if it can convince the Commission to eliminate regulated access to UNEs quickly, GCI likely will be unable to serve many of its customers economically using its own facilities exclusively. Consequently, GCI will be compelled either to limit its service to customers or to serve some customers at a loss while paying ACS supracompetitive rates for UNEs. To no one's surprise, all of these outcomes are highly beneficial for ACS.

K. Forbearance will not increase competition.

121. Professor Shelanski asserts that providing CLECs with regulated access to UNEs promotes "comparatively lower competition." [*Shelanski Statement*, ¶18] To support this

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[73] Even if price levels are regulated, ACS can prevent competitors from reducing retail prices below regulated levels. ACS can do so by raising UNE prices (and thus CLEC costs) to the point where CLECs cannot operate profitably at retail prices below regulated levels.

[74] ACS asserts that regulated access to UNEs "discourages GCI from investing more heavily in its own facilities." [*ACS Statement*, p. 39]

assertion, Professor Shelanski suggests that GCI will be less likely to negotiate access to the (very few) customers it serves exclusively if GCI has regulated access to UNEs.[75] [*Shelanski Statement*, ¶18]

122. Even if this unsubstantiated suggestion were true, it does not imply consumers are better served by denying CLECs regulated access to UNEs. As Professor Shelanski argues elsewhere in his statement, "consumers benefit more from facilities-based competition" than from other forms of competition. [*Shelanski Statement*, ¶13] If, indeed, GCI is more inclined to negotiate ACS access to GCI facilities when GCI is denied regulated access to UNEs, such a denial would seem to limit the likelihood of independent investment by ACS. Consequently, by Professor Shelanski's own logic, forbearance would reduce the extent of facilities-based competition, and thereby harm consumers.[76]

9. Conclusions.

123. In concluding, I emphasize the three primary conclusions in this declaration.

124. First and foremost, forbearance is not appropriate in Anchorage at the present time. Forbearance is appropriate only when ACS would not have market power if CLECs were denied regulated access to UNEs. In many geographic and product markets in Anchorage, ACS is the dominant supplier of key inputs and reasonably efficient CLECs would be impaired without regulated access to UNEs. Consequently, ACS would retain and exercise wholesale market power in many geographic regions in Anchorage if CLECs were denied regulated access to UNEs.

125. Second, ACS' arguments for forbearance are cursory, incomplete, and misleading. ACS fails to recognize the appropriate link between forbearance and the absence of market power. In discussing prevailing retail market shares, ACS ignores both the conditions under which these shares have developed and ACS' substantial market power in relevant wholesale markets. ACS also exaggerates the ability of resale competition and competition based on negotiated UNE rates to limit its market power.

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[75] In fact, GCI already has offered to negotiate such access with ACS. (See the Declaration of Blaine Brown) Thus, the basis for Professor Shelanski's suggestion is not apparent.

[76] Professor Shelanski's enthusiasm for situations in which ACS and GCI experience more extensive reliance upon one another in different geographic regions also appears to ignore the well-known principle that multi-market contact of this sort can reduce the intensity of competition among market participants, and thereby harm consumers (e.g., Bernheim and Whinston, 1990).

126. Third, GCI is an exemplary CLEC that is working diligently to implement full facilities-based operation. GCI does not need to be prodded by forbearance to employ its own facilities more extensively. By punishing GCI for its exceptional performance, forbearance in Anchorage would both harm consumers in Anchorage and seriously undermine incentives for exceptional performance by CLECs throughout the United States.

127. In short, the Act is working in Anchorage and should be permitted to continue working. Forbearance in Anchorage at the present time would be contrary to the goals and mandates of the Act, would harm consumers and limit competition in Anchorage, and would send inappropriate signals to CLECs throughout the United States. Thus, forbearance from unbundling obligations in Anchorage is contrary to the public interest.

Respectfully submitted,

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Appendix

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2001 - 2002	Chief Economist, Federal Communications Commission.
1989 - 1990	Matherly Professor of Economics, Department of Economics, University of Florida.
1989 - 1990	District Manager, Economics Research Group, Bell Communications Research.
1988 - 1989	Visiting Lecturer with Title of Full Professor, Department of Economics, Princeton University.
1984 - 1989	Member of Technical Staff, Economics Research Group, Bell Communications Research.
1982 - 1986	Assistant Professor, Department of Economics, University of Pennsylvania.
1981 - 1982	Assistant Professor, Institute of Public Policy Studies, University of Michigan.
1980 - 1982	Assistant Professor, Department of Economics, University of Michigan.

ADDITIONAL ACADEMIC POSITIONS:

1999 - Present	Director, Public Policy Research Center, University of Florida.
1993 - 1998	Associate Director, Public Policy Research Center, University of Florida.
1989 - Present	Senior Research Associate, Public Utility Research Center, University of Florida.

SERVICE ON EDITORIAL BOARDS:

1997 - Present	*The Rand Journal of Economics*	(Associate Editor).
1994 - Present	*The Journal of Regulatory Economics*	(Associate Editor).
1993 - Present	*Journal of Economics and Management Strategy*	(Co-Editor).
1992 - Present	*Information Economics and Policy*	(Board of Editors).
1983 - Present	*Economics Letters*	(Advisory Editor).
2001 - Present	*Journal of Public Policy and Marketing*	(Board of Editors).
2001 - 2003	*Journal of Public Policy and Marketing* (Special Issue)	(Associate Editor).
1996 - 1999	*The American Economic Review*	(Board of Editors).
1991 - 1995	*The Journal of Industrial Economics*	(Associate Editor).
1991 - 1994	*The Journal of Regulatory Economics*	(Board of Editors).
1988 - 1992	*The American Economic Review*	(Board of Editors).

JOURNAL PUBLICATIONS:

"Strategic Firm Behavior Under a Dynamic Regulatory Adjustment Process," *The Bell Journal of Economics*, Vol. 11(1), Spring 1980, pp. 360-372.

"Precontractual Information Asymmetry Between Principal and Agent: The Continuous Case," *Economic Letters*, Vol. 5(4), November 1980, pp. 371-375.

"Optimal Regulation of Research and Development Under Imperfect Information," *The Bell Journal of Economics*, Vol. 13(2), Autumn 1982, pp. 354-368.

"Sustainability, Entry Restrictions, and Induced Technological Bias," *Quarterly Review of Economics and Business*, Vol. 22(4), Winter 1982, pp. 43-52 (with W. Shepherd).

"Limited Liability Contracts Between Principal and Agent," *Journal of Economic Theory*, Vol. 29(1), February 1983, pp. 1-21.

"Optimal Regulation of a Multiproduct Monopoly with Unknown Technological Capabilities," *The Bell Journal of Economics*, Vol. 14(2), Autumn 1983, pp. 453-463.

"Multi-Agent Control in Perfectly Correlated Environments," *Economics Letters*, Vol. 13(4), November 1983, pp. 325-330 (with J. Demski).

JOURNAL PUBLICATIONS (CONTINUED):

"Optimal Incentive Contracts with Multiple Agents," *Journal of Economic Theory*, Vol. 33(1), June 1984, pp. 152-171 (with J. Demski).

"Incentive Contracting with Asymmetric and Imperfect Precontractual Knowledge," *Journal of Economic Theory*, Vol. 34(1), October 1984, pp. 52-70.

"To Brand or Not to Brand?: A Theoretical and Empirical Question," *The Journal of Business*, Vol. 58(3), July 1985, pp. 279-294 (with B. Wernerfelt).

"Line Item Reporting, Factor Acquisition, and Subcontracting," *The Journal of Accounting Research*, Vol. 24(2), Autumn 1986, pp. 250-269 (with J. Demski).

"On the Timing of Information Release," *Information Economics and Policy*, Vol. 2(4), December 1986, pp. 307-316 (with J. Demski).

"Commitment to Regulatory Bureaucracy," *Information Economics and Policy*, Vol. 2(4), December 1986, pp. 243-258.

"Managing Supplier Switching," *The Rand Journal of Economics*, Vol. 18(1), Spring 1987, pp. 77-97 (with J. Demski and P. Spiller).

"Information, Incentives and Organizational Mode," *The Quarterly Journal of Economics*, Vol. 102(2), May 1987, pp. 243-263 (with M. Riordan).

"Information and Regulation," in *Public Regulation: New Perspectives on Institutions and Policies*, E. Bailey (ed.), MIT Press, 1987, pp. 3-43 (with J. Stiglitz).

Reprinted in *Privatization in Developing Countries*, edited by P. Cook and C. Kirkpatrick. Cheltenham, England: Edward Elgar Publishers, 1999.

"Delegated Expertise," *Journal of Accounting Research*, Vol. 25(1), Spring 1987, pp. 68-89 (with J. Demski).

"Awarding Monopoly Franchises," *The American Economic Review*, Vol. 77(3), June 1987, pp. 375-387 (with M. Riordan).

"Efficient Awards and Standards of Proof in Judicial Proceedings," *The Rand Journal of Economics*, Vol. 18(2), Summer 1987, pp. 308-315 (with D. Rubinfeld).

"Hierarchical Regulatory Control," *The Rand Journal of Economics*, Vol. 18(3), Autumn 1987, pp. 369-383 (with J. Demski).

JOURNAL PUBLICATIONS (CONTINUED):

"Privatization, Information, and Incentives," *Journal of Policy Analysis and Management*, Vol. 6(4), Summer 1987, pp. 567-581 (with J. Stiglitz).

Reprinted in *The Political Economy of Privatization and Deregulation*, edited by E. Bailey and J. R. Pack. Cheltenham, England: Edward Elgar Publishers, 1995, pp. 79-94.

Also reprinted in *Privatisation and Corporate Performance*, edited by D. Parker. Cheltenham, England: Edward Elgar Publishers, 2001.

"Incentive Schemes with Multiple Agents and Bankruptcy Constraints," *Journal of Economic Theory*, Vol. 44(1), February 1988, pp. 156-167 (with J. Demski and P. Spiller).

"Regulating Without Cost Information: The Incremental Surplus Subsidy Scheme," *International Economic Review*, Vol. 29(2), May 1988, pp. 297-306 (with D. Sibley).

"Optimal Contracts with Public Ex Post Information," *Journal of Economic Theory*, Vol. 45(1), June 1988, pp. 189-199 (with M. Riordan).

Reprinted in *The International Library of Critical Writings in Economics: The Principal Agent Model: The Economic Theory of Incentives*, edited by J. Laffont. Cheltenham, England: Edward Elgar Publishers, forthcoming.

"Commitment in Procurement Contracting," *The Scandinavian Journal of Economics: Special Issue on Information and Incentives in Organizations*, Vol. 90(3), September 1988, pp. 357 372 (with M. Riordan).

"Profiting from Countervailing Power: An Effect of Government Control," *International Journal of Industrial Organization*, Vol. 6(4), December 1988, pp. 323-333 (with W.J. Adams).

"Regulating a Monopolist with Unknown Demand and Cost Functions," *The Rand Journal of Economics*, Vol. 18(3), Autumn 1988, pp. 438-457 (with T. Lewis).

"Regulating a Monopolist with Unknown Demand," *The American Economic Review*, Vol. 78(5), December 1988, pp. 986-998 (with T. Lewis).

Reprinted in *Critical Ideas in Economics: Economic Regulation*, edited by P. Joskow. Cheltenham, England: Edward Elgar Publishers, 2000, pp. 387-399.

"Inflexible Rules in Incentive Problems," *The American Economic Review*, Vol. 79(1), March 1989, pp. 69-84 (with T. Lewis).

JOURNAL PUBLICATIONS (CONTINUED):

"Hierarchical Structure and Responsibility Accounting," *The Journal of Accounting Research*, Vol. 27(1), Spring 1989, pp. 40-58 (with J. Demski).

"An Informational Effect When Regulated Firms Enter Unregulated Markets," *The Journal of Regulatory Economics*, Vol. 1(1), March 1989, pp. 35-46 (with T. Lewis).

"Regulatory Options and Price Cap Regulation," *The Rand Journal of Economics*, Vol. 20(3), Autumn 1989, pp. 405-416 (with T. Lewis).

"Second Sourcing," *The Rand Journal of Economics*, Vol. 20(1), Spring 1989, pp. 41-58 (with M. Riordan).

Reprinted in *The International Library of Critical Writings in Economics: The Economics of Defence*, edited by K. Hartley and T. Sandler. Cheltenham, England: Edward Elgar Publishers, 2001.

"Renegotiation and Specific Performance," *Law and Contemporary Problems: Special Issue on The Economics of Contract Law*, Vol. 52(1), Winter 1989, pp. 33-48 (with T. Lewis and M. Perry).

"Countervailing Incentives in Agency Problems," *Journal of Economic Theory*, Vol. 49(2), December 1989, pp. 294-313 (with T. Lewis).

Reprinted in *The International Library of Critical Writings in Economics: The Principal Agent Model: The Economic Theory of Incentives*, edited by J. Laffont. Cheltenham, England: Edward Elgar Publishers, forthcoming.

"Fully Revealing Income Measurement," *The Accounting Review*, Vol. 65(2), April 1990, pp. 363-383 (with J. Demski).

"Regulating Without Cost Information: Further Thoughts," *International Economic Review*, Vol. 31(4), November 1990, pp. 1027-1029 (with D. Sibley).

"Sequential Regulatory Oversight," *The Journal of Regulatory Economics*, Vol. 2(4), December 1990, pp. 327-348 (with T. Lewis).

"Sharing Productive Knowledge in Internally Financed R&D Contests," *The Journal of Industrial Economics*, Vol. 39(2), December 1990, pp. 187-208 (with S. Bhattacharya and J. Glazer).

"Incentives in Principal-Agent Relationships," *The Journal of Economic Perspectives*, Vol. 5(2), Spring 1991, pp. 45-66.

JOURNAL PUBLICATIONS (CONTINUED):

"Resolving Double Moral Hazard Problems with Buyout Agreements," *The Rand Journal of Economics*, Vol. 22(2), Summer 1991, pp. 232-240 (with J. Demski).

"Oversight of Long-Term Investment by Short-Lived Regulators," *International Economic Review*, Vol. 32(3), August 1991, pp. 579-600 (with T. Lewis).

"Incentives for Monitoring Quality," *The Rand Journal of Economics*, Vol. 22(3), Autumn 1991, pp. 370-384 (with T. Lewis).

"All-or-Nothing Information Control," *Economics Letters*, Vol. 37(2), October 1991, pp. 111 113 (with T. Lewis).

"Technological Change and the Boundaries of the Firm," *The American Economic Review*, Vol. 84(4), September 1991, pp. 887-900 (with T. Lewis).

Reprinted in *The Theory of the Firm*, edited by M. Casson. Cheltenham, England: Edward Elgar Publishers, 1996, pp. 397-410.

Also reprinted in *The Theory of the Firm: Critical Perspectives on Business and Management*, edited by N. Foss. London: Routledge Publishers, 2000, pp. 190-209.

"Licensing and the Sharing of Knowledge in Research Joint Ventures," *Journal of Economic Theory*, Vol. 56(1), February 1992, pp. 43-69 (with S. Bhattacharya and J. Glazer).

"Strategic Nonlinear Pricing Under Price Cap Regulation," *The Rand Journal of Economics*, Vol. 23(1), Spring 1992, pp. 1-19 (with D. Sibley).

"Further Thoughts on Fully Revealing Income Measurement," *The Accounting Review*, Vol. 67(3), July 1992, pp. 628-630 (with J. Demski).

"Incentives for Conservation and Quality-Improvement by Public Utilities," *The American Economic Review*, Vol. 82(5), December 1992, pp. 1321-1340 (with T. Lewis).

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"Sourcing with Unverifiable Performance Information," *The Journal of Accounting Research*, Vol. 31(1), Spring 1993, pp. 1-20 (with J. Demski).

JOURNAL PUBLICATIONS (CONTINUED):

"Choosing Workers' Qualifications: No Experience Necessary?," *International Economic Review*, Vol. 34(3), August 1993, pp. 479-502 (with T. Lewis).

"Ignorance in Agency Problems," *Journal of Economic Theory*, Vol. 61(1), October 1993, pp. 169-183 (with T. Lewis).

"An Incentive Approach to Banking Regulation," *Journal of Finance*, Vol. 48(4), September 1993, pp. 1523-1542 (with R. Giammarino and T. Lewis).

"Designing Superior Incentive Regulation: Accounting for All of the Incentives All of the Time," *Public Utilities Fortnightly*, Vol. 132(4), February 15, 1994, pp. 12-15 (with D. Weisman).

"Designing Superior Incentive Regulation: Modifying Plans to Preclude Recontracting and Promote Performance," *Public Utilities Fortnightly*, Vol. 132(5), March 1, 1994, pp. 27-32 (with D. Weisman).

"Supplying Information to Facilitate Price Discrimination," *International Economic Review*, Vol. 35(2), May 1994, pp. 309-327 (with T. Lewis).

"Designing Optional No-Fault Insurance Policies for Health Care Systems," *Journal of Economics and Management Strategy*, Vol. 3(1), Spring 1994, pp. 113-142.

"Designing Incentive Regulation," *Review of Industrial Organization*, Vol. 9(3), June 1994, pp. 245-272.

"Toward A Benchmark for Optimal Prudency Policy," *The Journal of Regulatory Economics*, Vol. 7(2), March 1995, pp. 111-130 (with W. Encinosa).

"Insurance, Adverse Selection, and Cream-Skimming," *Journal of Economic Theory*, Vol. 65(2), April 1995, pp. 327-358 (with T. Lewis).

"Simple Regulatory Policies in the Presence of Demand and Cost Uncertainty," *Information Economics and Policy*, Vol. 7(1), April 1995, pp. 57-73 (with B. Blair and T. Lewis).

"Optimal Industrial Targeting With Unknown Learning-By-Doing," *The Journal of International Economics*, Vol. 38(3/4), May 1995, pp. 275-295 (with E. Dinopoulos and T. Lewis).

JOURNAL PUBLICATIONS (CONTINUED):

"Explaining the Choice Among Regulatory Plans in the U. S. Telecommunications Industry," *The Journal of Economics and Management Strategy*, Vol. 4(2), Summer 1995, pp. 237-265 (with S. Donald).

"Revisiting the Line-of-Business Restrictions," *Managerial and Decision Economics*, Vol. 16(4), July-August 1995, pp. 291-300.

Reprinted in *Deregulating Telecommunications: The Baby Bells' Case for Competition*, edited by R. Higgins and P. Rubin. Chichester, England: John Wiley & Sons, 1995, pp. 11-20.

"Using Markets to Allocate Pollution Permits and Other Scarce Resource Rights Under Limited Information," *The Journal of Public Economics*, Vol. 57(3), July 1995, pp. 431-455 (with T. Lewis).

"Optimal Capital Structure in Agency Relationships," *The Rand Journal of Economics*, Vol. 26(3), Autumn 1995, pp. 343-361 (with T. Lewis).

"Revisiting the Conditions for Fully Revealing Disclosure," *Journal of Business Finance and Accounting*, Vol. 23(3), April 1996, pp. 487-490 (with J. Demski).

"The Effects of Incentive Regulation in the Telecommunications Industry: A Survey," *The Journal of Regulatory Economics*, Vol. 9(3), May 1996, pp. 269-306 (with D. Kridel and D. Weisman).

Reprinted in *Critical Ideas in Economics: Economic Regulation*, edited by P. Joskow. Cheltenham, England: Edward Elgar Publishers, 2000, pp. 602-641.

"Potential Pitfalls in Empirical Investigations of the Effects of Incentive Regulation Plans in the Telecommunications Industry," *Information Economics and Policy*, Vol. 8(2), June 1996, pp. 125-140 (with D. Weisman).

"Revenue Sharing in Incentive Regulation Plans," *Information Economics and Policy*, Vol. 8(3), September 1996, pp. 229-248 (with D. Weisman).

"Competition Among Health Maintenance Organizations," *The Journal of Economics and Management Strategy*, Vol. 6(1), Spring 1997, pp. 129-150 (with W. Encinosa).

"Penalizing Success in Dynamic Incentive Contracts: No Good Deed Goes Unpunished?," *The Rand Journal of Economics*, Vol. 28(2), Summer 1997, pp. 346-358 (with T. Lewis).

JOURNAL PUBLICATIONS (CONTINUED):

"Information Management in Incentive Problems," *The Journal of Political Economy*, Vol. 105(4), August 1997, pp. 796-821 (with T. Lewis).

"Choosing Among Regulatory Options in the United States Telecommunications Industry," *The Journal of Regulatory Economics*, Vol. 12(3), November 1997, pp. 227-243 (with S. Donald).

"Access Pricing With Unregulated Downstream Competition," *Information Economics and Policy*, Vol. 11(1), March 1999, pp. 73-100 (with T. Lewis).

"Summarization with Errors: A Perspective on Empirical Investigations of Agency Relationships," *Management Accounting Research*, Vol. 10(1), March 1999, pp. 21-37 (with J. Demski).

"Setting the *X* Factor in Price Cap Regulation Plans," *The Journal of Regulatory Economics*, Vol. 16(1), July 1999, pp. 5-25 (with J. Bernstein).

"Employing Decoupling and Deep Pockets to Mitigate Judgment-Proof Problems," *The International Review of Law and Economics*, Vol. 19(2), June 1999, pp. 275-293 (with T. Lewis).

"Using Subjective Risk Adjusting to Prevent Patient Dumping in the Health Care Industry," *The Journal of Economics and Management Strategy*, Vol. 8(3), Fall 1999, pp. 351-382 (with T. Lewis).

"ACR Reforms to Promote HMO Participation in Medicare + Choice," *Health Care Financing Review*, Vol. 21(1), Fall 1999, pp. 19-29 (with W. Encinosa).

"How to Determine the *X* in *RPI - X* Regulation: A User's Guide," *Telecommunications Policy*, Vol. 24(1), February 2000, pp. 63-68 (with J. Bernstein).

"Contracting With Wealth-Constrained Agents," *International Economic Review*, Vol. 41(3), August 2000, pp. 743-767 (with T. Lewis).

"Motivating Wealth-Constrained Actors," *The American Economic Review*, Vol. 90(4), September 2000, pp. 944-960 (with T. Lewis).

"Optimal Contracting With Private Knowledge of Wealth and Ability," *The Review of Economic Studies*, Vol. 68(1), January 2001, pp. 21-44 (with T. Lewis).

JOURNAL PUBLICATIONS (CONTINUED):

"How Liable Should a Lender Be? The Case of Judgement Proof Firms and Environmental Risk: Comment," *The American Economic Review*, Vol. 91(3), June 2001, pp. 724-730 (with T. Lewis).

"Status and Trends of Performance-Based Regulation in the U.S. Electric Utility Industry," *The Electricity Journal*, Vol. 14(8), October 2001, pp. 71-79 (with G. Basheda, P. Hanser, and J. Pfeifenberger).

"The Impact of State Incentive Regulation on the U.S. Telecommunications Industry," *The Journal of Regulatory Economics*, Vol. 22(2), September 2002, pp. 133-159 (with C. Ai).

"Economic Issues at the Federal Communications Commission," *The Review of Industrial Organization*, Vol. 21(4), December 2002, pp. 337-356 (with E. Kwerel, J. Levy, R. Pepper, D. Stockdale, and J. Williams).

"Regulating Horizontal Diversification," *International Journal of Industrial Organization*, Vol. 21(3), March 2003, pp. 291-315.

"The Federal Communications Commission's Competition Policy and Marketing=s Information Technology Revolution," *Journal of Public Policy & Marketing*, Vol. 22(1), Spring 2003, pp. 26-34 (with D. Stockdale).

"Incentives for Anticompetitive Behavior by Public Enterprises," *Review of Industrial Organization*, Vol. 22(3), May 2003, pp. 183-206 (with J.G. Sidak).

"The Effects of Incentive Regulation on Retail Telephone Service Quality in the United States," *Review of Network Economics*, Vol. 2(4), December 2003, pp. 355-375.

"Competition Law for State-Owned Enterprises," *Antitrust Law Journal*, Vol. 71(2), December 2003, pp. 479-523 (with J.G. Sidak).

"Competition Policy, Parity Regulation, and Self-Sabotage," *Info*, Vol. 6(1), February 2004, pp. 52-56 (with D. Weisman).

"Efficient Manipulation in a Repeated Setting," *Journal of Accounting Research*, Vol. 42(1), March 2004, pp. 31-49 (with J. Demski and H. Frimor).

"Toward a Synthesis of Models of Regulatory Policy Design with Limited Information," *The Journal of Regulatory Economics*, Vol. 26(1), July 2004, pp. 5-21 (with M. Armstrong).

JOURNAL PUBLICATIONS (CONTINUED):

"Wholesale Pricing and Local Exchange Competition," *Info*, Vol. 6(5), 2004, pp. 318-325 (with L. Wood and W. Zarakas).

"Incentive Regulation and Telecommunications Service Quality," *The Journal of Regulatory Economics*, Vol. 26(3), November 2004, pp. 263-285 (with C. Ai and S. Martinez).

"On the Design of Performance Measurement Plans in the Telecommunications Industry," *Telecommunications Policy*, Vol. 28(11), December 2004, pp. 801-820 (with L. Wood).

"Regulating Service Quality: A Survey," *The Journal of Regulatory Economics*, Vol. 27(2), March 2005, pp. 123-154.

"Self Sabotage," *The Journal of Regulatory Economics*, Vol. 27(2), March 2005, pp. 155-175 (with D. Weisman).

"Privately-Negotiated Input Prices," *The Journal of Regulatory Economics*, Vol. 27(3), May 2005, pp. 263-280 (with B. Unel).

"Reviewing the Impact of Incentive Regulation on U.S. Telephone Service Quality," *Utilities Policy*, Vol. 13(3), September 2005, pp. 201-210 (with C. Ai).

"On the Irrelevance of Input Prices for Make-or-Buy Decisions," *The American Economic Review*, Vol. 95(5), December 2005, pp. 1631-1638.

"Regulation in Vertically-Related Industries: Myths, Facts, and Policy," *Review of Industrial Organization*, forthcoming.

"Regulation, Competition, and Liberalization," *Journal of Economic Literature*, forthcoming (with M. Armstrong).

"The Effects of Reinsurance in Financing Children's Health Care," *Inquiry*, Spring 2006, forthcoming (with S. Aydede, A. Dick, B. Vogel, and E. Shenkman).

"On the Design of Input Prices: Can TELRIC Prices Ever be Optimal?" *Information Economics and Policy*, forthcoming.

BOOKS/MONOGRAPHS:

Designing Regulatory Policy with Limited Information. London, England: Harwood Academic Publishers, 1987 (with D. Besanko).

Designing Incentive Regulation for the Telecommunications Industry. Cambridge, MA: The MIT Press, 1996 (with D. Weisman).

BOOK CHAPTERS:

"Procurement and Quality Monitoring," in *Incentives in Procurement Contracting*, edited by J. Leitzel and J. Tirole. Westview Press, 1993, pp. 61-70 (with T. Lewis).

"Principles of Regulatory Policy Design," in *Infrastructure Delivery: Private Initiative and the Public Good*, edited by A. Mody. The World Bank, 1996, pp. 79-105.

"Seven Myths About Incentive Regulation," in *Pricing and Regulatory Innovations Under Increasing Competition*, edited by M. Crew. Kluwer Academic Publishers, 1996, pp. 1-20 (with D. Weisman).

"Horizontal Vicarious Liability," in *The Law and Economics of the Environment*, edited by A. Heyes. Edward Elgar Publishers, 2001, pp. 71-91 (with T. Lewis).

"Price Regulation," in *The Handbook of Telecommunications Economics. Volume I: Structure, Regulation, and Competition*, edited by M. Cave, S. Majumdar, and I. Vogelsang. Elsevier Science Publishers, 2002, pp. 225-293.

"Anticompetitive Behavior by State-Owned Enterprises: Incentives and Capabilities," in *Competing with the Government: Anticompetitive Behavior and Public Enterprises*, edited by R. Richard Geddes. Hoover Press, 2004, pp. 1-25 (with J. G. Sidak).

"Recent Developments in the Theory of Regulation," in *The Handbook of Industrial Organization*, edited by M. Armstrong and R. Porter. Elsevier Science Publishers, 2006 (forthcoming) (with M. Armstrong).

BOOK REVIEWS:

"Review of Berg and Tschirhart's *Natural Monopoly Regulation,*" *Managerial and Decision Economics*, Vol. 11(1), February 1990, pp. 70-71.

"Review of Laffont and Tirole's *A Theory of Incentives in Procurement and Regulation,*" *Journal of Economic Literature*, Vol. 32(2), June 1994, pp. 720-721.

"Review of Vogelsang and Mitchell's *Telecommunications Competition: The Last Ten Miles,*" *Information Economics and Policy*, Vol. 9(4), December 1997, pp. 354-357.

"Review of Vogelsang and Mitchell's *Telecommunications Competition: The Last Ten Miles,*" *Review of Industrial Organization*, Vol. 12(5-6), December 1997, pp. 837-840.

"Are Public Enterprises the Only Credible Predators?," *The University of Chicago Law Review*, Vol. 67(1), Winter 2000, pp. 271-292 (with G. Sidak).

"Review of Sclar's *You Don't Always Get What You Pay For: The Economics of Privatization,*" *Journal of Economic Literature*, Vol. 39(2), June 2001, pp. 601-603.

"Review of De Bijl and Peitz's *Regulation and Entry into Telecommunications Markets,*" *Journal of Economic Literature*, Vol. 42(2), June 2004, pp. 538-539.

OTHER PUBLICATIONS:

"Consumer Shopping Behavior in The Retail Coffee Market: A Comment," in *Proceedings of the Federal Trade Commission's Conference on Empirical Approaches to Consumer Protection Economics*, edited by P. Ippolito and D. Scheffman, 1986, pp. 445-446.

"Endogenous Commitment and Regulatory Design: A Comment on Levy and Spiller's *Regulation, Institutions, and Commitment in Telecommunications,*" in *Proceedings of the World Bank Annual Conference on Development Economics*, edited by M. Bruno and B. Pleskovic. The World Bank, 1994, pp. 253-256.

"Comment on R. Geddes' "Agency Costs and Governance in the United States Postal Service"," in *Governing the Postal Service*, edited by J. G. Sidak. American Enterprise Institute, 1994, pp. 140-143.

"Economic Theory of Regulation," in *The International Encyclopedia of the Social and Behavioral Sciences*, edited by N. Smelser and P. Baltes, Elsevier Science Publishers, 2001.

"Overview of the Special Issue – Marketing's Information Technology Revolution: Implications for Consumer Welfare and Economic Performance," *Journal of Public Policy & Marketing*, Vol. 22(1), Spring 2003, p. 3 (with A. Silk).

RESEARCH GRANTS:

2001 - 2004	U. S. Health Resources and Services Administration: Maternal and Child Health Bureau.
1998 - 2000	The World Bank.
1995 - 1998	Management Science Group, Department of Veterans Affairs Medical Center at Bedford, Massachusetts.
1993 - 1995	National Science Foundation: Economics Division.
1993	Management Science Group, Department of Veterans Affairs Medical Center at Bedford, Massachusetts.
1990 - 1992	National Science Foundation: Economics Division.
1990	University of Florida: Division of Sponsored Research.
1990	The Garn Institute of Finance.
1984 - 1986	National Science Foundation: Economics and Information Sciences Divisions.
1982 - 1984	University of Pennsylvania: Center for the Study of Organizational Innovation.
1982 - 1983	National Science Foundation: Economics and Information Sciences Divisions.
1982	Sloan Foundation: Support through the Institute of Public Policy Studies, University of Michigan.
1978 - 1980	Sloan Foundation: Support through the Department of Economics, Princeton University.

HONORS AND AWARDS:

2003	Distinguished Service Award, Public Utility Research Center, University of Florida.
2000	Faculty Honoree, Anderson Scholars Program, University of Florida.
1998	Professorial Excellence Program Award, University of Florida.
1997	Research Foundation Professorship, University of Florida.
1992	Research Achievement Award, University of Florida.
1976	Inducted into the Phi Beta Kappa Society.

REFEREE/REVIEWER FOR:

Accounting Review
Addison Wesley, Publishers
American Economic Review
American Law and Economics Review
American Enterprise Institute
Bell Journal of Economics
Berkeley Electronic Press Journals in Economic Policy and Analysis
Bulletin of Economic Research
Cambridge University Press
China Economic Review
Danish Social Science Research Council
Economic Journal
Econometrica
Economic and Social Research Council
Economic Design
Economic Inquiry
Economics Letters
Economic Theory
Energy Journal
Encyclopedia of Law and Economics
European Economic Review
European Journal of Operational Research
Games and Economic Behavior
Harcourt Brace, Publishers
Information Economics and Policy
International Journal of Industrial Organization
International Review of Law and Economics
Johns Hopkins University Press
John Wiley, Publishers
Journal of Accounting Research
Journal of the American Statistical Association
Journal of Business
Journal of Corporate Finance
Journal of Economic Behavior and Organization
Journal of Economic Dynamics and Control
Journal of Economic Theory
Journal of Economics and Business
Journal of Economics and Management Strategy
Journal of Environmental Economics and Management
Journal of Industrial Economics
Journal of International Economics
Journal of Law and Economics
Journal of Law, Economics and Organization
Journal of Marketing Research
Journal of Policy Analysis and Management
Journal of Political Economy
Journal of Public Economics
Journal of Public Policy and Marketing
Journal of Regulatory Economics
Management Science
Managerial and Decision Economics
Marketing Science
MIT Press
National Science Foundation: Law and Social Sciences, Information Sciences, and Economics Divisions
Oxford University Press
Princeton University Press
Quarterly Journal of Economics
Quarterly Review of Economics and Business
Rand Journal of Economics
Research in Labor Economics
Review of Economic Studies
Review of Economics and Statistics
Review of Industrial Organization
Review of Network Economics
Southern Economic Journal
Telecommunications Policy
Utilities Policy
World Bank Economic Review

SELECTED ADDITIONAL EXPERIENCE:

1997 - Present	Instructor in *The International Training Program on Utility Regulation and Strategy*, sponsored by The World Bank and Florida's Public Utility Research Center.
2005	Advisor on the Design of Telecommunications Competition Policy for General Communication, Inc.
2005	Consultant on Competition Policy in the Postal Industry for United Parcel Service.
2004 – 2005	Advisor on Competition Policy in the Telecommunications Industry for The Antitrust Division of the United States Department of Justice.
2004	Advisor on the Design of Price Cap Regulation for OSIPTEL, Peru's National Telecommunications Regulatory Agency.
2003 – 2004	Advisor on the Design of Performance Measurement Systems for SBC, Inc.
2003	Presented Invited Testimony to the President's Commission on the United States Postal Service.
2003	Advisor on the Design of Universal Service and Competition Policy for General Communication, Inc.
2001	Advisor on the Design of Telecommunications Policy for Ecuador's Central Regulatory Body, CONATEL.
2000 – 2001	Advisor on the Design of Incentive Regulation for Electric Utilities for Ameren UE.
1998 – 2000	Consultant and Expert Witness on Postal Industry Pricing for United Parcel Service.
1999 – 2000	Advisor on a Proposed Merger in the Communications Industry for The Antitrust Division of the United States Department of Justice.
1998 – 2000	Advisor on Telecommunications Privatization in Africa for The World Bank.
1996	Consultant and Expert Witness on the Design of Price Cap Regulation for TELUS Communications, Inc.

SELECTED ADDITIONAL EXPERIENCE (CONTINUED):

1995	Expert Witness on Incentive Regulation and Competition for GTE-California.
1992 – 1994	Consultant on the Design of Incentive Regulation for The Southern Bell Telephone Company.
1992	Advisor on Incentive Regulation in the Electric Power Industry for The New York State Public Service Commission.